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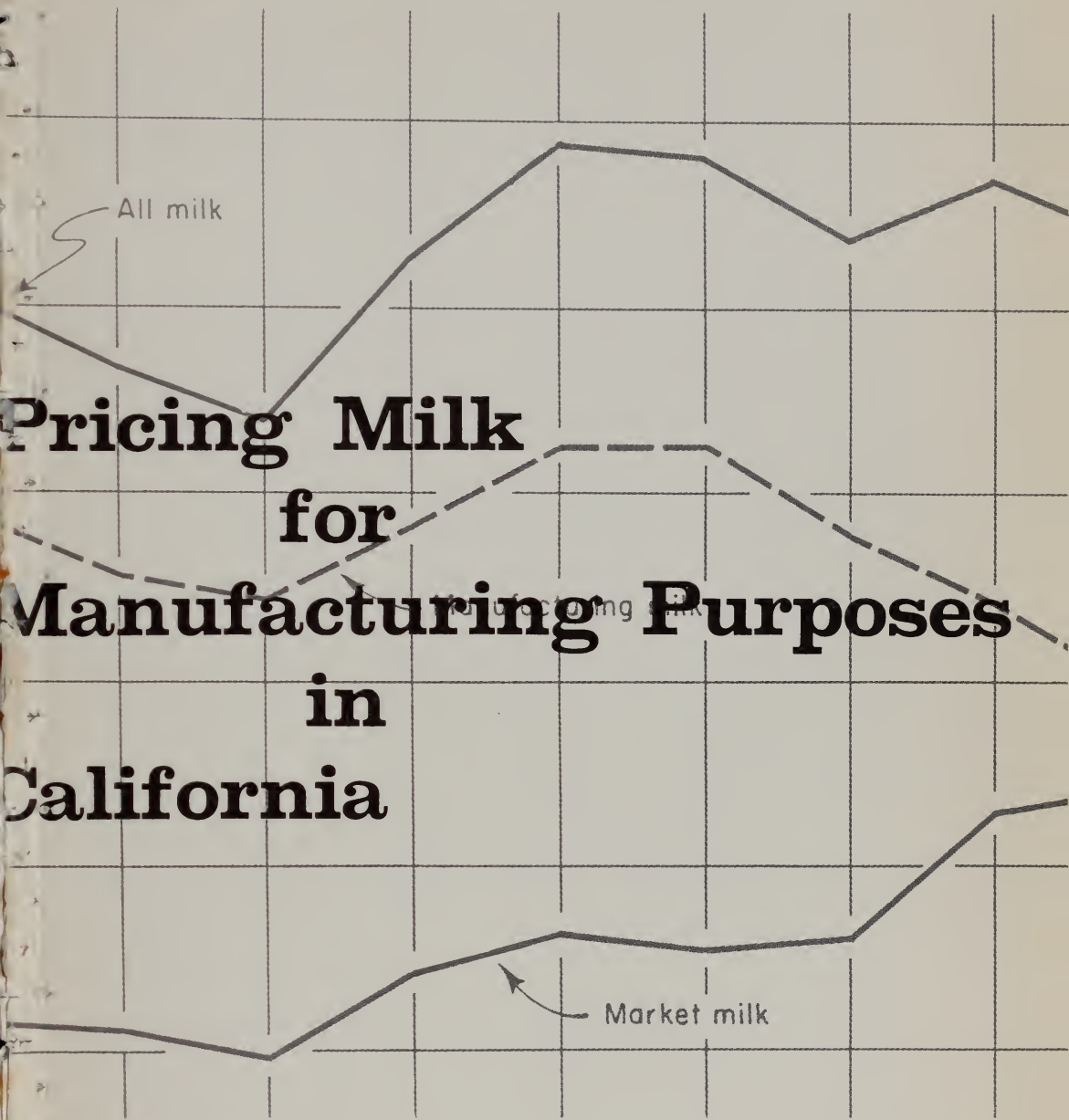

Pricing Milk for Manufacturing Purposes in California

D. A. CLARKE, JR. • OLAN D. FORKER • AARON C. JOHNSON, JR.

CALIFORNIA AGRICULTURAL EXPERIMENT STATION

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This bulletin reports studies that compared the net values of raw milk in alternative uses. They compared prices paid to California milk producers with those paid producers in other areas of the country. And they also tested California milk prices against the costs to processors of alternative source ingredients.

The purpose of the bulletin is to

- develop procedures for estimating and evaluating appropriate price levels for milk used for dairy products manufacture in California;
- evaluate the basis for establishing different use classifications for milk for manufacturing purposes;
- examine problems involved in determining the appropriate number of classes for such milk in California markets; and
- evaluate the potentials and problems associated with the use of formulas in establishing prices for milk for manufacturing purposes.

Contents

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Pricing Milk for Manufacturing Purposes in California[1]

D. A. Clarke, Jr. · Olan D. Forker · Aaron C. Johnson, Jr.

Summary

Relatively low prices paid in California during the past few years for milk for manufacturing purposes have put a growing cost-price squeeze on Grade B (manufacturing) milk producers. Many persons have looked for ways to alleviate this problem. Bills were introduced in the state legislature, both in 1959 and 1961, to extend the state price control program to include manufacturing-grade milk.

This study is designed to investigate some of the important factors that influence the milk prices paid by manufacturing plants and thus to provide some fundamental data on which to base an appropriate policy decision. Its objectives center around various techniques for analyzing and measuring the effectiveness of the existing pricing system and the possible consequences of alternative price-setting procedures. No attempt has been made to offer specific recommendations on the extension of milk price control in California. Rather, the study is intended to provide information which will help our legislators and the industry in making appropriate decisions.

Analyses were made of the relative movement of product prices, the prices paid by San Joaquin Valley manufacturing plants, and the movement of estimated processing costs which entered into the computation of partial net margins for the major products manufactured in California dairy processing plants. During the six-year period studied, from January, 1956, through December, 1961, a relatively high degree of consistency was indicated; that is, the calculations of partial net margins tended to "hover" around the simple average of such margins for the entire time span. On the other hand, just as observed in other markets, the *levels* of estimated partial net margins varied substantially among products. These calculations indicated that, on the average, processors of butter and spray-processed nonfat dry milk solids lost approximately 20 cents per hundredweight. The production of butter and condensed skim milk, on the average, was a slightly better alternative for processors and tended to result in a small profit. Processors with outlets for cream and spray-processed nonfat dry milk and those with markets for cream and condensed skim milk also tended to be in a somewhat better position. Handlers who could find an outlet for the sale of ice cream mix in conjunction with any of the alternative outlets for the nonfat solids component of milk consistently made a higher profit than those whose major use of milk fat took the form of either cream or butter.

[1] Submitted for publication July 24, 1963.

Finally, processors of evaporated milk who could find a market outlet for their product also consistently enjoyed rather favorable positions.

The trends of partial net margins relative to those realized from butter-nonfat dry milk operations were studied for six years. A high degree of consistency was noted here, too, in the movements of all the alternative product combinations except evaporated milk. For the latter product, this index of relative profitability increased substantially in late 1957 and early 1958, stabilized at a relatively high level in 1959, increased further during mid-1960, then definitely declined by early 1961.

Prices paid by California manufacturing plants were compared with those paid by similar plants in Midwest areas. Throughout the period under analysis, movements in these various price series were generally similar and California producers for the most part received a price advantage over Midwest producers. For this analysis, two alternative price series had been used to reflect prices paid by Midwest plants—the reported "Midwest condensery price series" and the recently developed "Minnesota-Wisconsin" price series. With the exception of two periods, one in 1951 and the other during the latter part of 1960 and early 1961, the reported San Joaquin Valley price (adjusted to 3.5 per cent milk fat content) consistently exceeded the Midwest condensery prices by approximately 20 cents per hundredweight. Since data for the Minnesota-Wisconsin manufacturing price series were available only since January, 1955, this comparison could be made for only a limited time period. During this time, the San Joaquin Valley manufacturing prices also exceeded the level reported by this Midwest series except for two periods—the latter parts of both 1960 and 1961. On the basis of these comparisons, it may be concluded that California producers of milk for manufacturing purposes have fared well compared to their counterparts in the Midwest. There is a slight indication, however, based on the comparison with the Minnesota-Wisconsin series, that the relative position of California producers has become somewhat less favorable in recent years.

Estimated cost of ingredients imported from other sources for the production of manufactured dairy products in California plants (particularly ice cream and cottage cheese) was compared with the cost of producing these same products from California-produced raw product supplies. Indications were that prices of California raw product supplies in recent years have been sufficiently favorable to make it unattractive for California processors to substitute imported ingredients for locally produced supplies. It also seemed apparent that the relationship between the costs of California raw product and those of imported ingredients has remained relatively constant since 1950.

No evidence of any lessening in efficiency was found in the operation of the market mechanism by which California manufacturing milk prices have been determined in recent years. On the whole, and with the exceptions noted, producer prices (as measured by the San Joaquin Valley series) have generally been consistent with those which would have been expected on the basis of specified relationships.

Since differences in relative profitability exist in the manufacture of alternative milk products, the feasibility of establishing separate use-classifications for milk for manufacturing-grade purposes can be considered. Since at present not all milk of this type is under state price regulation, Grade B milk (which is unregulated) can be freely substituted for Grade A milk used in the higher-valued classes (except Class I). This greatly limits the opportunity for any substantial premiums to exist for milk for Class II purposes over manufacturing-grade milk prices.

To eliminate "leakage" between use-classifications of these two grades of milk, it would be necessary to bring all milk under regulation. This could, perhaps, be accomplished by legislation similar to that presented in Senate Bill 40 of the 1961 legislative session, but there are two reasons why the pricing of milk for manufacture is far more difficult than pricing of milk for fluid purposes. First, malalignment of class prices within the nonfluid (manufacturing) uses can be expected to have serious repercussions upon resulting utilization patterns; and second, when manufacturing milk prices are segmented, the prices established for the lowest class use must be determined with extreme care. If such prices are too high, they can result in "homeless" milk. If too low, they will provide incentives to processors to increase their demands for milk for such uses, thus increasing surpluses and depress both Class I and blend prices.

Finally, the desirability of the use of some type of "automatic" formula for setting manufacturing milk prices has been discussed. In general, such formulas have advantages. They can be used to assure producers of at least the equivalent of the "paying ability" of milk when used for the manufacture of specific products such as butter or nonfat dry milk. Or they can be based on price series reflecting prices paid producers in other manufacturing areas, thus assuring California producers prices as high as those received elsewhere. The application of formulas to manufactured milk prices is not without disadvantages, however. During recent years, for example, California producers would have averaged a lower price than they actually received had they been paid either on a "butter-powder" or on the Minnesota-Wisconsin price series basis.

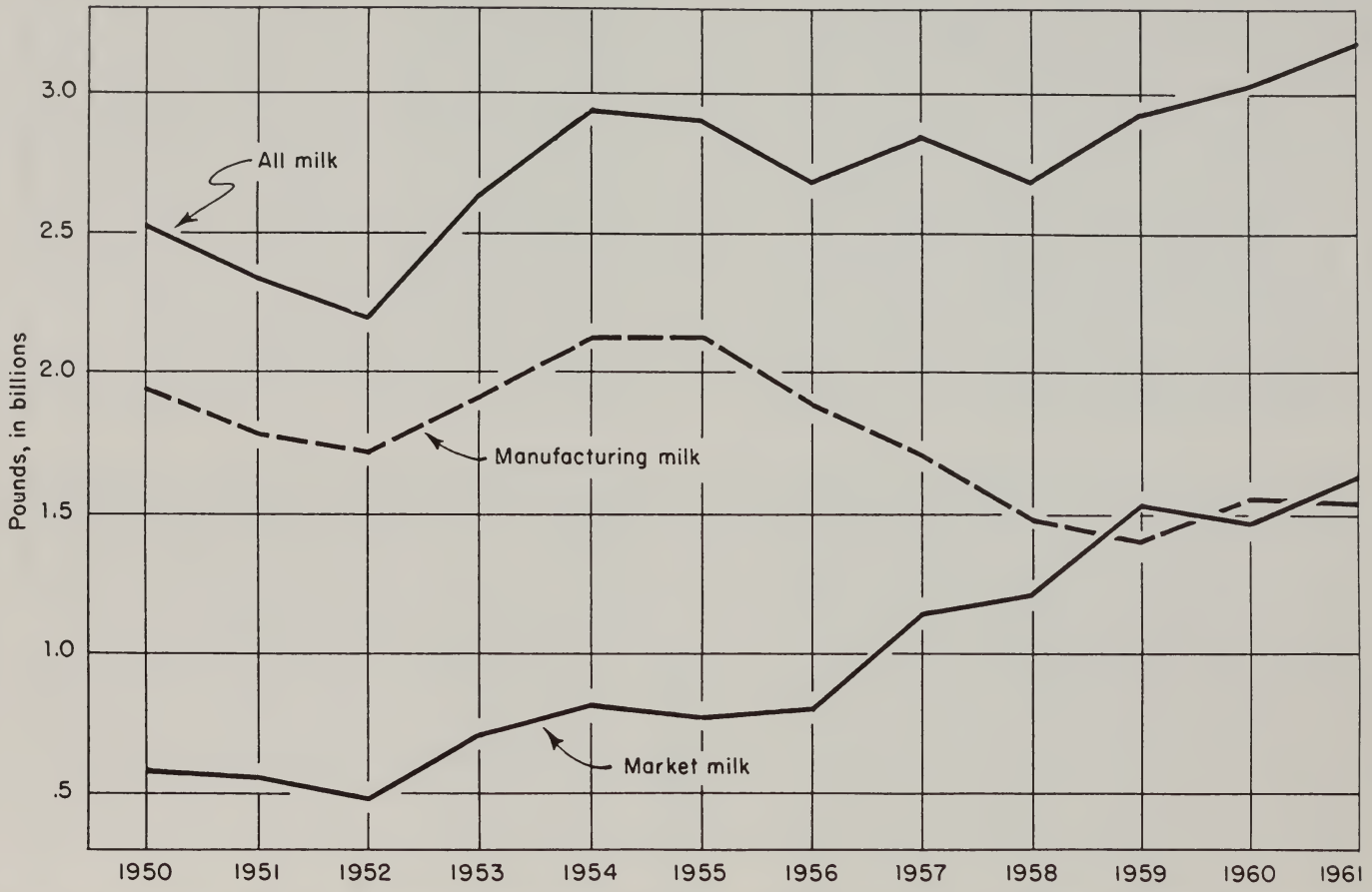
Introduction

In California, milk for manufacturing uses is available from two sources—manufacturing grade milk and excess Grade A supplies over Class I requirements. In recent years the total amount of such milk has ranged from approximately 2.5 billion pounds per year in 1950 to slightly less than 3.2 billion pounds during the year 1961 (see figure 1). During this time span, however, the proportion of this supply derived from manufacturing grade milk has decreased from 77.0 per cent in 1950 to 48.5 per cent in 1961. Of the total commercial milk production in California at the present time, approximately 40 per cent is utilized in the manufacture of dairy products other than fluid market milk products. As just indicated, a little less than half of this is produced as manufacturing—or Grade B—milk, while the remainder, or slightly more than half, is supplied from "excess" Grade A production. Since either grade can be substituted as a raw product ingredient for any of the manufactured products, these two sources of supply, therefore, are directly in competition for the "market" for dairy products.

Under current provisions of the California Milk Stabilization Act,[2] the Grade A portion of the supply of milk for manufacturing comes under the price jurisdiction of the Director of Agriculture, while the Grade B portion does not. The latter fact has led some persons to believe that returns to producers of manufacturing milk might be increased by further legislation designed to bring all milk prices under the regulatory jurisdic-

[2] The Milk Stabilization Act, as it is commonly known, appears in California, *Agricultural Code* (1961), c. 17, div. 6, pp. 670–711.

FIGURE 1. MILK AVAILABLE FOR MANUFACTURE: MARKET, MANUFACTURING, AND TOTAL, CALIFORNIA, ANNUAL AVERAGES, 1950–1961



Source: California Crop and Livestock Reporting Service, *Manufactured Dairy Products, Milk Production, Utilization, and Prices* (Sacramento, 1961), p. 33.

tion of the state pricing agency. Legislation for this purpose was introduced in the 1959 Legislature (Senate Bill 1167) and also in the 1961 Legislature (Senate Bill 40). Both bills were referred to the Assembly Interim Committee on Livestock and Dairies for further study.

Problems associated with pricing milk for manufacturing uses have received considerable attention over the years. For example, minimum producer prices for milk used for evaporated milk were established under the authority of the Agriculture Agreement Act of 1933 between September, 1933, and June, 1947. In this case the prices were determined by the formula in use under marketing agreements 7 and 60 and license 100 and were always below prices actually paid. The established price, therefore, was never effective as a minimum price, and these agreements were withdrawn during 1947. Today, prices for locally produced supplies of milk eligible for fluid consumption but in excess of market requirements are subject to the price control jurisdiction of governmental agencies in many areas. Federal market orders prevail in 82 markets in the United States, while approximately 20 states carry out their own price regulations covering minimum producer prices. In each of these markets, the industry and the pricing agency have constantly given serious consideration to the levels and the relationships of prices set for milk entering manufacturing uses.

Currently, about 4,500 dairymen in California produce manufacturing-grade milk. Except for a brief period in the early 1950's, when milk demand for manufacturing purposes increased during the Korean crisis and brought about a rise in milk prices, the prices received for manufacturing milk in California have remained relatively constant. Computed on the basis of 3.8 per cent milk fat and f.o.b. San Joaquin Valley plants, these prices were $3.26 per hundredweight in 1950 and $3.49 per hundredweight in 1961. During this 12-year period, prices of other products, including input factors such as feed, labor, and equipment, which are costs to dairymen, as well as the prices of Class I milk, increased at a more rapid rate. This disparity has led to an increasing cost-price squeeze on California manufacturing-grade milk producers. As stated in the final report of the Assembly Interim Committee on Livestock and Dairies,[3] "The problem at issue centers around the generally unsatisfactory level of returns to California dairy farmers for milk produced for manufacturing uses. The question at issue concerns whether the plight of these dairymen can be alleviated by legislative means."

In recent years the problems of pricing manufacturing milk have been variously analyzed by researchers at several land-grant colleges and by the U. S. Department of Agriculture. Of the analyses made in California by the Giannini Foundation, a 1953 study of pricing efficiency is of particular significance.[4] Most recently, a six-volume series has been published entitled *Class III Milk in the New York Milkshed*.[5] These studies have provided a basis for the methodology of the present investigation and have contributed to its progress.

[3] California Legislative Assembly, Interim Committee on Livestock and Dairies, *Final Report 1961–62*, 18: 4 (Sacramento, 1963), p. 27.

[4] James B. Hassler, Pricing efficiency in the manufactured dairy products industry, *Hilgardia* 22: 8, August, 1953.

[5] U. S. Marketing Economics Research Division, *Class III milk in the New York milkshed*, Marketing Research Report Nos. 379, 396, 400, 419, 462, and 466, 1960 and 1961.

Objectives and Procedures

THE OBJECTIVES of our project are:

- To develop procedures for estimating and evaluating appropriate price levels for milk used for dairy product manufacture in California.
- To analyze and evaluate the basis for establishing different use (price) classifications for milk for manufacturing purposes and to examine problems involved in determining the appropriate number of classes for such milk in California markets.
- To evaluate the potentials and some of the problems associated with the use of formulas in establishing prices for milk for manufacturing uses.

The general procedures of this study center around measures of the efficiency of the market for California-manufactured milk and its products, as well as the effectiveness of the price mechanism. Ten product combinations are analyzed in this study: (1) Cream-nonfat dry milk, (2) cream-condensed skim milk, (3) cream-cottage cheese, (4) butter-nonfat dry milk, (5) butter-condensed skim milk, (6) butter-cottage cheese, (7) ice cream mix-nonfat dry milk, (8) ice cream mix-condensed skim milk, (9) ice cream mix-cottage cheese, and (10) evaporated milk. The measures used in the analyses include the determination of the quantities (or yields) of each of these alternative products manufactured from a specified amount of milk under California processing conditions, the prices received by processors for these products, and the respective costs of manufacture. Additionally, these measures involve determining the appropriate costs to processors of obtaining supplies from alternative sources which may potentially compete with locally produced raw whole milk, and a comparison of prices paid California producers with those paid by plants in other areas for milk used for similar purposes.

It should be noted that a study of an industry as complex as the manufactured dairy products industry cannot be expected to provide complete answers to all questions that might possibly arise. Nevertheless it is possible to arrive at substantial conclusions by examining the internal consistency of the prices generated within its marketing system. In this context, an efficient market is viewed as a system in which production and utilization changes as well as intermarket movements, respond to price changes, while at the same time these adjustments provide an automatic and self-correcting mechanism that tends to keep prices in line. In such an efficient market, for example, it is expected that prices for a standardized product, such as butter, in two cities such as San Francisco and Chicago, will tend to differ only by an amount representing appropriate transportation and handling charges. If San Francisco prices exceed Chicago prices by an amount larger than this, traders in the Midwest will increase their western shipments to take advantage of the higher prices. These increased shipments will force down San Francisco prices and thereby return the market to a normal "price plus transfer cost" basis. If an examination of actual prices should reveal important price disparities, and if these disparities persist through substantial time periods, inefficiency within the system must be suspected.

Of course, comparisons of this kind can never be perfect, for no complex market system can be expected to result in perfect adjustments in supplies, ultilization, and prices. With numerous producing firms and many markets widely dispersed throughout the country, knowledge of all market situations is necessarily imperfect. Moreover, some lapse of time is inevitable in making adjustment. As a result, prices will invariably oscillate to some extent as they "hunt" for their ap-

propriate level. In the analyses following here, an attempt has been made to avoid shortrun changes by focusing attention on the general price relationships through time.

Using the measures described, answers to the following questions have been sought:

- How efficient is the California manufactured dairy products market in returning prices to producers for raw milk that are consistent with the product prices received by processors when necessary allowances have been made for costs of processing and marketing? This has been tested by comparing the net value of the raw material in the several uses.
- How efficient is the California manufactured dairy products industry in returning prices to producers that are in line with prices paid by manufactured dairy products plants in other parts of the nation? This has been tested by comparing data on average monthly milk prices in California with reports of prices paid in the major manufacturing regions of the nation.
- How efficient is the California manufactured dairy products industry in returning prices to producers that are consistent with the cost to manufacturers of importing supplies of milk fat and solids-not-fat from alternative sources? This has been tested by comparing California manufacturing milk prices with the cost of alternative ingredients measured in terms of the prices of sweet cream butter and of high quality nonfat dry milk solids.

A similar analysis was made by the Giannini Foundation which covered the period from the end of World War II to the early 1950's.[6] For the most part, this study indicated that the manufacturing dairy products industry in California had been operating with a high degree of pricing efficiency. However, several exceptions were noted. First, government intervention during the war resulted in some inconsistencies among products—a direct result of deliberate attempts to obtain the maximum use of dairy products for human consumption. These attempts were implemented in part by fixing relatively attractive prices for such products as whole milk powder and nonfat dry milk and discouraging the flow of milk into butter and livestock feed outlets. Second, some important lags in price and production adjustments occurred. The outstanding example was the rapid decline in butter prices in 1948, followed at a slower rate by a reduction in cheese prices, while evaporated milk prices lagged behind and decreased at a very gradual rate. Finally, evaporated milk proved to be the major exception to the findings of pricing efficiency in the manufactured milk industry at that time, primarily because three or four of the major producers of evaporated milk sell nationally advertised brands and were able to obtain premium prices for their differentiated products.

[6] Hassler, *op. cit.*

Partial Net Margins for Alternative Manufactured Dairy Products in California

This study is focused upon various measures designed to test the efficiency of the marketing system in generating prices consistent with those which would have prevailed if, in fact, the market had demonstrated perfect performance. With this as a norm, it is possible to "generate" alternative sets of estimated prices based on specified relationships that would prevail under perfect market conditions. By comparing these generated prices with actual prices, the degree of efficiency of

the market system may be evaluated. This method of evaluating the performance of a marketing system, therefore, is not concerned with those attributes of an industry commonly treated in studies of market performance, such as structure, conduct, or behavior. It is not concerned with whether the firms making up the industry exercise a degree of market power, but rather with the price *results* obtained by the industry under consideration.

One such measure under study investigates the relationships between returns realized by processors for products manufactured from raw milk supplies and prices paid to producers for this milk, when necessary allowances are made for costs incurred in the processing operations. Differences between the "net value" of these raw product supplies (the gross value of product manufactured less manufacturing costs) may be considered to be "net margins." In this sense, net margins may be treated as profits or losses—depending upon whether net margins are positive or negative—over and above the rate of return on investment in plants and facilities which is required to maintain necessary capital. This would be the case when "normal" profits are included as a part of the estimate of processing cost.

In a market which operates in a perfectly competitive manner, it is reasonable to expect net margins to approximate zero over time. That is to say, temporary or short-run profits would tend to offset similar short-run losses. Again, due to the nature of the corrective forces put in motion by the market mechanism, it is reasonable to assume that long-run equilibrium of this type will be obtained through a series of short-run disequilibrium situations in which prices and costs are continually seeking their appropriate adjustment.

Because of the complex nature of the market studied, measurement methods and techniques can hardly be precise and testing procedures can provide no more than rough estimates. Conclusions drawn from such imperfect evidence should therefore be carefully evaluated. In spite of these limitations, an analysis of net margins should:

- provide an index of the net value of milk when used to manufacture specific dairy products
- provide an index of the relative profitability of manufacturing various specific products from whole milk
- furnish the basis for a better understanding of the nature of the market for manufactured dairy products
- help explain changes in the utilization of milk for manufacturing purposes.

Elements of a Net Margin Analysis

The four major components of the present analysis are: (1) The yields of the various products and product combinations that can be obtained from a specified amount of raw milk. (2) The net f.o.b. plant prices of the products under consideration. (3) The cost per hundredweight involved in processing and packaging the raw milk into finished products to the point of shipment from the manufacturing plant. (4) The raw product cost, or the price paid producers for milk of the average fat content received.

These four components may be used to determine the partial net margins available from the processing of any given product (or product combination) per unit of raw milk available at any particular point in time. These are termed *partial* net margins because certain expenses which enter into costs are difficult to determine and, even if determined, cannot easily be included in calculations of margins. These expenses include overhead and administrative expenses of the firm operating the manufacturing facilities as well as advertising, merchandising, and other costs associated with marketing the product. Because these costs have been excluded, it is not appropriate to consider

these partial net margins as synonomous with the *absolute* level of either profits or losses. On the other hand, to the extent that the development of the calculations discussed in the following sections are appropriate and consistent, these partial net margins should indicate the relative profitability of alternative types of operations. Even more important to this discussion, these measures should be valid in measuring changes that may have occurred in the profitability of manufacturing operations over the time period analyzed.

Yield Formulations.—The amount of product that can be obtained from a given amount of raw milk (100 pounds, in this analysis) varies according to the particular product being processed, the quantities of fat and nonfat solids in the milk, the specifications for the separate products, and the losses incurred in processing. For example, one hundredweight of milk of 3.8 per cent fat content (with the associated notfat solids) will produce approximately 4.54 pounds of butter and 8.33 pounds of nonfat dry milk. Or, the same milk could be used to produce approximately 9.27 pounds of 40 per cent cream and 25.52 pounds of condensed skim milk.

For most of the manufactured dairy products under consideration in this analysis, standards for fat, solids-not-fat, and moisture have been established by federal and state government laws or regulations. The specifications used in calculating yields of all the products considered are as follows:

Butter—80.5 per cent milk fat

Cream—40 per cent milk fat

Cottage cheese—curd contains 25 per cent total milk solids; creamed to 4 per cent milk fat by addition of cream containing 20 per cent milk fat

Ice cream mix—12.5 per cent milk fat, 10 per cent nonfat milk solids, 15 per cent sugar, 0.4 per cent gelatin

Nonfat dry milk—98.5 per cent nonfat milk solids

Condensed skim milk—32 per cent total milk solids

Evaporated whole milk—7.9 per cent milk fat, 18 per cent nonfat milk solids

Estimates of the pounds of a fat product and a skim product obtained from 100 pounds of whole milk of a specified fat content were made from formulas developed on the basis of the above product specifications, together with certain assumptions concerning manufacturing operations. In those cases in which one of the milk components (fat or skim) was needed for standardization of the product of the other component, appropriate adjustments were made in the product yield of the first component. Product yields for each month were based on the average fat test of milk available for manufacture for that month. The relationships for calculating yields of all products appear in table 1.

Product Prices.—For use in this analysis, price series were obtained for seven products of the ten product combinations under consideration. These price series have been developed to reflect returns at the f.o.b. plant level and thus are net of the transportation costs of the final product from plant to market. These product prices have been obtained through two sources: price reports of the U. S. Department of Agriculture and records of firms engaged in buying and selling manufactured dairy products in California.

Regularly published reports of the Market News Service of the U. S. Department of Agriculture provided the necessary price data for butter, cream, evaporated milk, and nonfat dry milk. But this agency does not publish prices for products such as ice cream mix, condensed skim milk, and cottage cheese; therefore, prices for these products were obtained from other sources. The price series developed for ice cream mix and condensed skim milk are given in table 2.

It was impossible to develop adequate

TABLE 1. RELATIONSHIPS FOR CALCULATING YIELDS OF SPECIFIED MANUFACTURED DAIRY PRODUCTS, CALIFORNIA, 1961*

Cream Operations

(1) Cream and nonfat dry milk

$Q_{40} = 2.5063F - 0.2506$

$Q_p = 7.3067 + 0.2701F$

(2) Cream and condensed skim milk

$Q_{40} = 2.5063F - 0.2506$

$Q_{cs} = 22.3767 + 0.8272F$

(3) Cream and cottage cheese

$Q_{40} = 2.4574F - 1.5709$

$Q_{cc} = 14.6704 + 0.5423F$

Butter Operations

(1) Butter and nonfat dry milk

$Q_b = 1.2267F - 0.1227$

$Q_p = 7.3067 + 0.2701F$

(2) Butter and condensed skim milk

$Q_b = 1.2267F - 0.1227$

$Q_{cs} = 22.3767 + 0.8272F$

(3) Butter and cottage cheese

$Q_b = 1.2028F - 0.7689$

$Q_{cc} = 14.6704 + 0.5423F$

Ice Cream Mix Operations

(1) Ice cream mix and nonfat dry milk

$Q_{icm} = 8.0413F - 0.8042$

$Q_p = 7.4705 - 0.4822F$

(2) Ice cream mix and condensed skim milk

$Q_{icm} = 8.0413F - 0.8042$

$Q_{cs} = 23.3453 - 1.5069F$

(3) Ice cream mix and condensed skim milk

$Q_{icm} = 8.3294F - 5.3437$

$Q_{cc} = 15.7601 - 1.0003F$

Evaporated Milk Operations

Evaporated whole milk

$Q_E = 0.0417F + 0.9384$ (when $F \leq 3.85$)

$Q_E = 0.0398F + 0.9458$ (when $F > 3.85$)

**Explanation of symbols*

Q_{40} = pounds of 40 per cent cream
F = per cent fat content of milk
Q_p = pounds of nonfat dry milk
Q_{cs} = pounds of condensed skim milk
Q_{cc} = pounds of cottage cheese
Q_b = pounds of butter
Q_{icm} = pounds of ice cream mix
Q_E = cases of evaporated whole milk

price information for cottage cheese and therefore to estimate partial net margins for any product combinations involving cottage cheese. Thus, three of the ten product combinations had to be eliminated from this section of the analysis.

Processing Costs.—The determination of processing costs is a major element of any net-margin analysis. In this phase of the study, the costs of manufacturing were developed for all of the specified product combinations.[7]

Procedure for developing cost data: The technique used was the budgetary or synthetic model procedure, sometimes called the "building block technique," that has been developed and widely used in recent years by researchers concerned with investigating costs of this type. Under this procedure, model plants of specific capacity, equipment, and labor force are developed. The models are assumed to use the processing techniques, managerial practices, market organization, and institutional arrangements actually prevailing in the industry.

The primary objective in developing these cost estimates was to determine costs that would be consistent with reasonably efficient operations in California. These reasonably efficient levels are established by the specifications for equip-

[7] A detailed description of the development of these processing costs is contained in Aaron C. Johnson, Jr., Olan D. Forker, and D. A. Clarke, Jr., "Operations and Costs of Manufacturing Dairy Products in California," University of California, Giannini Research Report No. 272 (Berkeley, 1964), 72 pp.

TABLE 2. PRICES FOR ICE CREAM AND CONDENSED SKIM MILK, CALIFORNIA, 1956–1961*

Month	Ice cream mix†/						Condensed skim milk‡/					
	1956	1957	1958	1959	1960	1961	1956	1957	1958	1959	1960	1961
	cents per pound											
January	15.11	15.44	14.89	14.67	14.78	14.78	5.09	5.09	5.09	4.64	4.64	4.59
February	15.11	15.22	14.67	14.67	14.78	14.78	5.09	5.09	5.09	4.64	4.64	4.59
March	15.00	14.89	14.67	14.67	14.56	15.22	5.09	5.09	5.09	4.64	4.46	5.10
April	14.67	14.67	14.11	14.67	14.33	15.22	5.09	5.09	4.64	4.64	4.46	5.10
May	14.39	14.56	13.89	14.67	14.22	15.22	5.09	5.09	4.64	4.64	4.46	5.10
June	14.39	14.56	13.89	14.67	14.22	14.89	5.09	5.09	4.64	4.64	4.46	5.10
July	14.33	14.56	13.89	14.67	14.22	14.89	5.09	5.09	4.64	4.64	4.46	5.23
August	14.33	14.56	13.89	14.67	14.22	14.89	5.09	5.09	4.64	4.64	4.46	5.23
September	15.00	14.89	14.00	14.78	14.44	15.11	5.09	5.09	4.64	4.64	4.59	5.23
October	15.44	14.89	14.56	14.78	14.78	15.33	5.09	5.09	4.64	4.64	4.59	5.23
November	15.44	14.89	14.67	14.78	14.78	15.33	5.09	5.09	4.64	4.64	4.59	5.23
December	15.44	14.89	14.67	14.78	14.78	15.33	5.09	5.09	4.64	4.64	4.59	5.23

* Price series for ice cream mix developed from reported prices of three companies; price series for condensed skim milk developed on the basis of the relationship between government support prices on nonfat dry milk and condensed skim milk prices available.

† Based on assumption that one gallon of ice cream mix weighs 9.0 pounds.

‡ Based on assumption that one gallon of condensed skim milk weighs 9.4 pounds.

ment, labor, and other inputs developed in the plant synthesis. It is recognized that this procedure will not reflect "average" processing costs for this area—the type that might be used directly for price-setting purposes. Nor will it reflect costs for any particular plant except for the "hypothetical" plant specified. Furthermore, because the costs apply only to plants of specified size, they tell nothing about possible scale economies associated with processing at various plant volumes. Obviously, if substantial scale economies exist, plants with smaller or larger volumes than the hypothetical plant will experience lower or higher margins than those indicated in this analysis. However, the cost levels obtained should represent those attainable under conditions of efficient organization. Additionally, costs for processing any one of the alternative product combinations determined by this method will tend to be consistent with the costs of others, provided that the plant specifications (building, equipment, and labor requirements) as well as the cost rates are themselves consistent.

Once the model plant has been designed and organized as an efficient and workable operation, it becomes possible to attach money prices to the various physical inputs required and to calculate total and unit costs. In this analysis, cost rates appropriate for the year 1961 were applied and processing costs, computed for each of the alternative model plants specified—in terms of the expenses per hundred pounds of raw milk received—appear in table 3.

Modifications of 1961 cost data: Estimates of processing costs for the entire time period under study were obtained by adjusting the 1961 estimates through the application of regularly reported indexes. For these adjustments the processing cost for each product was broken down into its separate components, such as labor, utilities, building expenses, equipment expenses, consumable supplies, and packaging expense. Each of these cost components was then adjusted separately with an appropriate index. The summary of annual processing costs for each model plant per hundredweight of milk received is given in table 4. The estimated processing costs for each of the alternative plants, developed by months for 1950 through 1961, appear in tables 5–14 in the Appendix.

The index used to "move" labor costs was developed from wage rates supplied by the Western Conference of Teamsters. Bracket 1 wage rates were used in developing the index. It was found that Bracket 1 labor costs in 1961 exceeded the basic hourly Bracket 1 wage rates in 1951 by about 64 per cent. Therefore, with 1951 = 100, the 1961 index of labor costs was

TABLE 3. SUMMARY OF UNIT PROCESSING COST ESTIMATES BY TYPE OF PLANT, CALIFORNIA, 1961

Type of plant	Processing cost per 100 pounds of milk received
	dollars
Cream-nonfat dry milk	0.677
Cream-condensed skim milk	0.470
Cream-cottage cheese	0.585
Butter-nonfat dry milk	0.726
Butter-condensed skim milk	0.520
Butter-cottage cheese	0.633
Ice cream mix-nonfat dry milk	0.662
Ice cream mix-condensed skim milk	0.484
Ice cream mix-cottage cheese	0.622
Evaporated milk	2.074

TABLE 4. SUMMARY OF ESTIMATED ANNUAL PROCESSING COSTS FOR MODEL PLANTS, PER HUNDREDWEIGHT OF MILK RECEIVED* 1950–1961†

Plant	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
	dollars											
Cream-nonfat dry milk	.461	.488	.502	.518	.526	.549	.572	.592	.595	.626	.654	.677
Cream-condensed skim milk	.313	.328	.339	.349	.356	.371	.388	.402	.405	.430	.451	.470
Cream-cottage cheese	.374	.390	.404	.418	.427	.448	.466	.481	.488	.526	.557	.585
Butter-nonfat dry milk	.492	.521	.536	.553	.562	.583	.610	.631	.635	.670	.699	.726
Butter-condensed skim milk	.344	.362	.372	.385	.392	.409	.427	.441	.446	.474	.498	.520
Butter-cottage cheese	.403	.422	.437	.451	.461	.482	.503	.518	.526	.566	.601	.633
Ice cream mix-nonfat dry milk	.445	.470	.484	.500	.507	.530	.555	.574	.579	.611	.639	.662
Ice cream mix-condensed skim milk	.319	.336	.346	.358	.364	.381	.399	.412	.416	.443	.464	.484
Ice cream mix-cottage cheese	.395	.415	.429	.445	.455	.476	.498	.513	.521	.560	.592	.622
Evaporated milk	1.401	1.580	1.608	1.642	1.640	1.689	1.806	1.899	1.933	2.014	2.045	2.074

* Based on estimated total annual receipts of approximately 82 million pounds.
† Annual costs include labor, utilities, building, equipment, consumable supplies, and packaging.

164.3; and the 1961 labor cost per hundredweight of milk received was divided by this index to obtain the factor which was then multiplied by the labor index for each month involved in the analysis. The resulting figures represented the monthly labor cost per hundredweight of milk handled.

All the other major components of processing cost were adjusted in a similar manner. For the building components, index data were obtained for 1950 through 1960 from "ENR Cost Indexes by Region and City," *Supplement to Engineering News Record*, March 23, 1961; and index data for 1961 came from *Engineering News Record*, December 21, 1961. Several indexes used were obtained from *Business Statistics, 1961 Edition. A Supplement to the Survey of Current Business*, May, 1961, published by the U. S. Department of Commerce, Office of Business Economics. Among these were the "Metal and Metal Products Index," used to move equipment expenses; and the "Fuel, Power, and Lighting Materials Index," used for the utilities component. Two different indexes were used to move packaging costs—the "Index of Wholesale Paper Prices," for butter and nonfat dry milk; and the "Index of Tinplate, Electrolytic, Hot Dipped," for evaporated milk. Consumable supplies were adjusted by an index developed from a simple average of the indexes used for building, equipment, and utilities costs.

Raw Product Cost.—The raw product cost is a reflection of the price paid to producers for incoming milk supplies. For this purpose, the prices used were those reported by the California Crop and Livestock Reporting Service as the average price paid by San Joaquin Valley condenseries for milk of 3.8 per cent fat content.[8] These prices were first adjusted to reflect f.o.b. plant prices by adding an appropriate transportation differential to the reported ranch price data to cover costs of milk collection from farm to plant. In addition, they were adjusted to the average fat test of all milk available for manufacture within the state for the month being studied. This was accomplished by applying the current butterfat differential to the reported price for milk of the standard 3.8 fat content.[9]

Monthly raw product cost data, together with fat tests, are given in table 15 in the Appendix.

Development of Partial Net Margins

This analysis proceeds through steps which involve the gross returns from the products manufactured, the costs of product manufacture, and the cost of raw product supplies. The procedures and the data are illustrated in the following calculations, which were based on June, 1961, data.

[8] Data for the San Joaquin Valley condensery price series were obtained directly from the California Bureau of Milk Stabilization. Until January, 1957, these price data had been published monthly in the *Dairy Information Bulletin*, issued by the California Crop and Livestock Reporting Service. This series was selected to represent the prices paid California producers for milk for manufacturing purposes for two reasons: (1) although based on a limited number of milk plants, it is considered reasonably representative of prices actually paid by all plants located in the San Joaquin Valley for manufacturing grade milk, and (2) it is the basis for the price established by the Bureau of Milk Stabilization for Grade A milk entering Class III uses.

[9] The adjusted price used does not reflect bulk tank premiums or other premiums paid by various processing plants. A reliable estimate of the change in average price that might result from inclusion of premiums is not available at this time. However, industry opinion indicates that in 1956 practically no bulk tank premiums were paid above quoted prices. By 1962, however, a premium of 15–25 cents per hundredweight was being paid on 50 per cent of the manufacturing milk. To the extent such premiums exist and are not included in this analysis, the price series used to reflect prices paid by California plants understates actual prices. This has the effect of overstating the level of partial net margins and understating the positive differential.

1. Yield of cream per 100 pounds of milk of 3.36 per cent fat content	8.17 pounds	
2. Price of cream per pound	$0.338	
3. Value of cream per 100 pounds of milk (8.17 × $0.338)		$2.76
4. Yield of nonfat dry milk per 100 pounds of milk of 3.36 per cent fat content	8.21 pounds	
5. Price of nonfat dry milk per pound	$0.159	
6. Value of spray process nonfat dry milk (8.21 × $0.159)		$1.31
7. Gross value of cream and nonfat dry milk per 100 pounds of milk of 3.36 per cent fat content (points 3 plus 6)		$4.07
8. Raw product cost of 100 pounds of 3.36 per cent fat content milk		$3.24
9. Gross margin (points 7 minus 8)		$0.83
10. Cost of processing 100 pounds of 3.36 per cent milk into cream and nonfat dry milk		$0.67
11. Partial net margin (points 9 minus 10)		$0.16

The results of this sample calculation indicate that, for the time period during which the specified product prices, raw product cost, and processing cost figures were appropriate, the partial net margin obtainable from a hundredweight of 3.36 milk, when used for the manufacture of cream and nonfat dry milk, was 16 cents. As previously emphasized, this partial net margin takes into consideration only those costs that are associated with the direct costs of raw milk and of processing. Expenses of administration and merchandising must also be covered by the partial net margin, and this fact must be given due consideration before any conclusions are reached regarding the absolute degree of profitability of the operation.[10] Furthermore, since the calculations upon which they are based (product prices, raw milk prices, and processing costs) are estimates, the partial net margins cannot be presumed to be highly accurate. At best, partial net margins provide only a rough measure or guide to the absolute profitability of these operations. Viewed in this manner, this measure can provide valuable information concerning the relative profitability of alternative product combinations and the changes that may have occurred over time.

Results of Partial Net Margin Analyses

Estimates of gross values, raw product costs, and partial net margins are graphically presented in figures 2 through 8 for the seven product combinations analyzed in this study for the period from January, 1956, through December, 1961. The horizontal dotted line which appears on each graph represents a simple average of the partial net margins for each specified product combination for the six-year period. Each six-year average provides a basis both for comparing changes over time in the level of partial net margins for each product combination and for comparing differences in the levels of these margins among product combinations.

In general, the partial net margins for the cream and butter combinations tended to remain relatively stable over the six years studied, while those for the ice cream mix combinations showed somewhat wider variations. Of all the products and product combinations anal-

[10] Costs excluded from the partial net margins are (1) the overhead administration costs of the processing *firm* and not the plant; (2) merchandising expenses for homogenous, undifferentiated commodities sold in bulk form, f.o.b. manufacturing plant. It has been assumed that these excluded costs are not likely to be large when expressed in terms of a hundredweight of milk processed, nor are they expected to vary substantially from product to product.

yzed, the partial net margins for the evaporated milk operation averaged highest and showed the largest variation over time.

The partial net margins for the butter combinations tended to remain close to or below zero, while those for the cream combinations tended to be slightly positive. Combinations with ice cream mix tended to have higher partial net margins than did those in which the fat-containing product was either cream or butter. In all instances, combinations involving condensed skim milk resulted in higher relative returns than did those using the solid nonfat portion of the milk in the form of nonfat dry milk. Thus, of the combination products, ice cream mix-condensed skim milk operations yielded the highest partial net margins, while, as indicated, butter-nonfat dry milk provided the lowest return.

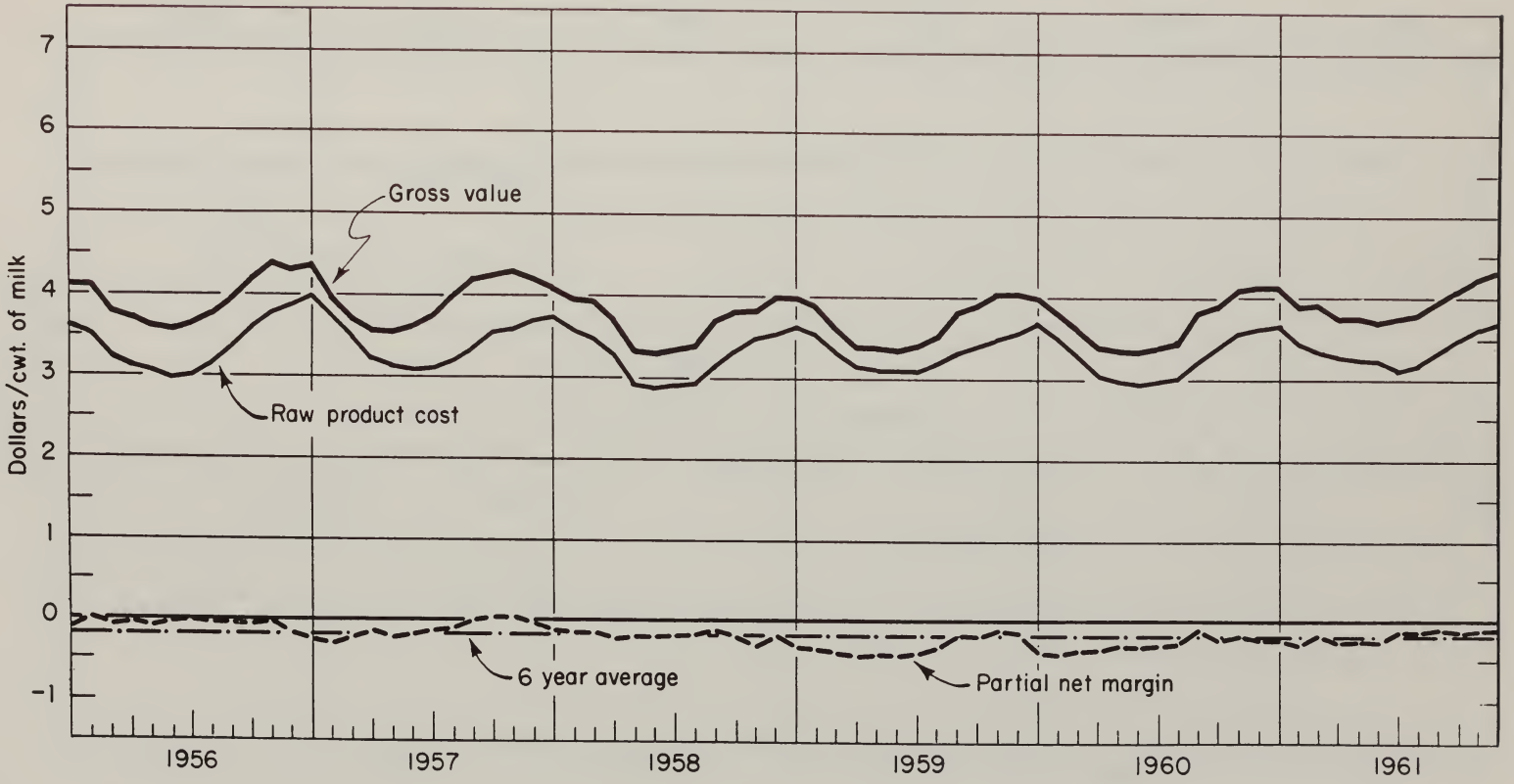
On the whole, during the period under study, partial net margins for each product combination varied in a similar pattern around the six-year average, even though some combinations demonstrated somewhat more variation than did others. This similarity of pattern also appears in figures 2 through 8 for the other two lines, which show gross value and raw product cost. The most pronounced correspondence occurred in the ice cream mix combinations. Partial net margins tended to be highest when both the gross value of the product and the raw product cost were at their highest levels, an indication that raw product costs (producer prices) appear to be quite responsive to changes in finished product values, but that producer prices do not adjust completely to either upward or downward movements in gross product values. The result is that the partial net values tend to be above average when gross values are high, but below average when gross values decline. One qualification to this conclusion must be noted. A substantial part of the differences in month-to-month gross values represents differences in the fat and nonfat solids content of the milk available for manufacture which affect the physical product yields. Therefore, some changes in gross value would occur even when the unit returns from the sale of product (product prices) remained unchanged.

In general, for all products except evaporated milk, the partial net margins were highest during 1956, the latter part of 1957 and early 1958, and during the latter part of 1961. They were lowest during the early part of 1959 and during the first months of 1960. The partial net margins for evaporated milk, on the other hand, reached their lowest points in the latter part of 1956 and early 1957, and during the latter part of 1961; they reached their highest levels during mid-1958, mid-1960, and early in 1961. The rather drastic decline in these margin levels that occurred in the latter part of the period analyzed was the result of a drop in product prices together with an increase in raw product costs.

Partial net margins, by months, and the data entering into their calculation, appear in tables 16–22, pages 101 to 121.

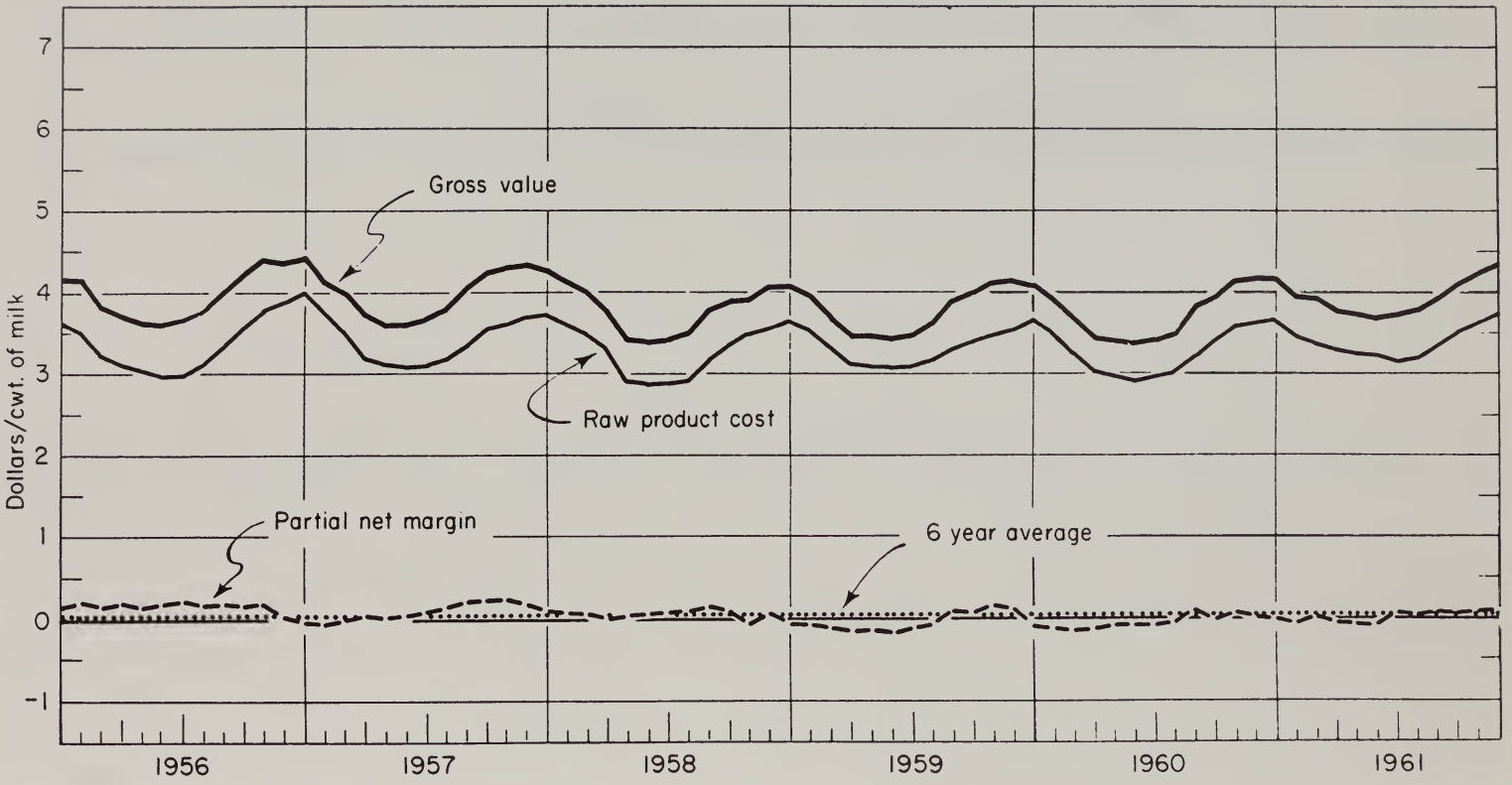
Because data on product prices were available from U. S. Department of Agriculture sources prior to 1956 for butter, cream, nonfat dry milk, and evaporated milk, it was possible to compute partial net margins for three products or combinations for a longer time period. These product combinations were butter-nonfat dry milk, cream-nonfat dry milk, and evaporated milk. Their partial net margins were calculated back to January, 1950. As shown in figure 9, these estimates of partial net margins maintained the same relative position in the period from 1950 through 1955 as they had in the later six-year period analyzed. However, month-to-month fluctuations—particularly from mid-1951 through early 1954—were substantially wider than at any other time. Within the full 12-year period, the partial net margins for both the butter and cream combinations reached their peak in February, 1952,

FIGURE 2. BUTTER AND NONFAT DRY MILK: GROSS VALUE, RAW PRODUCT COST AND PARTIAL NET MARGINS, CALIFORNIA, BY MONTHS, 1956–1961



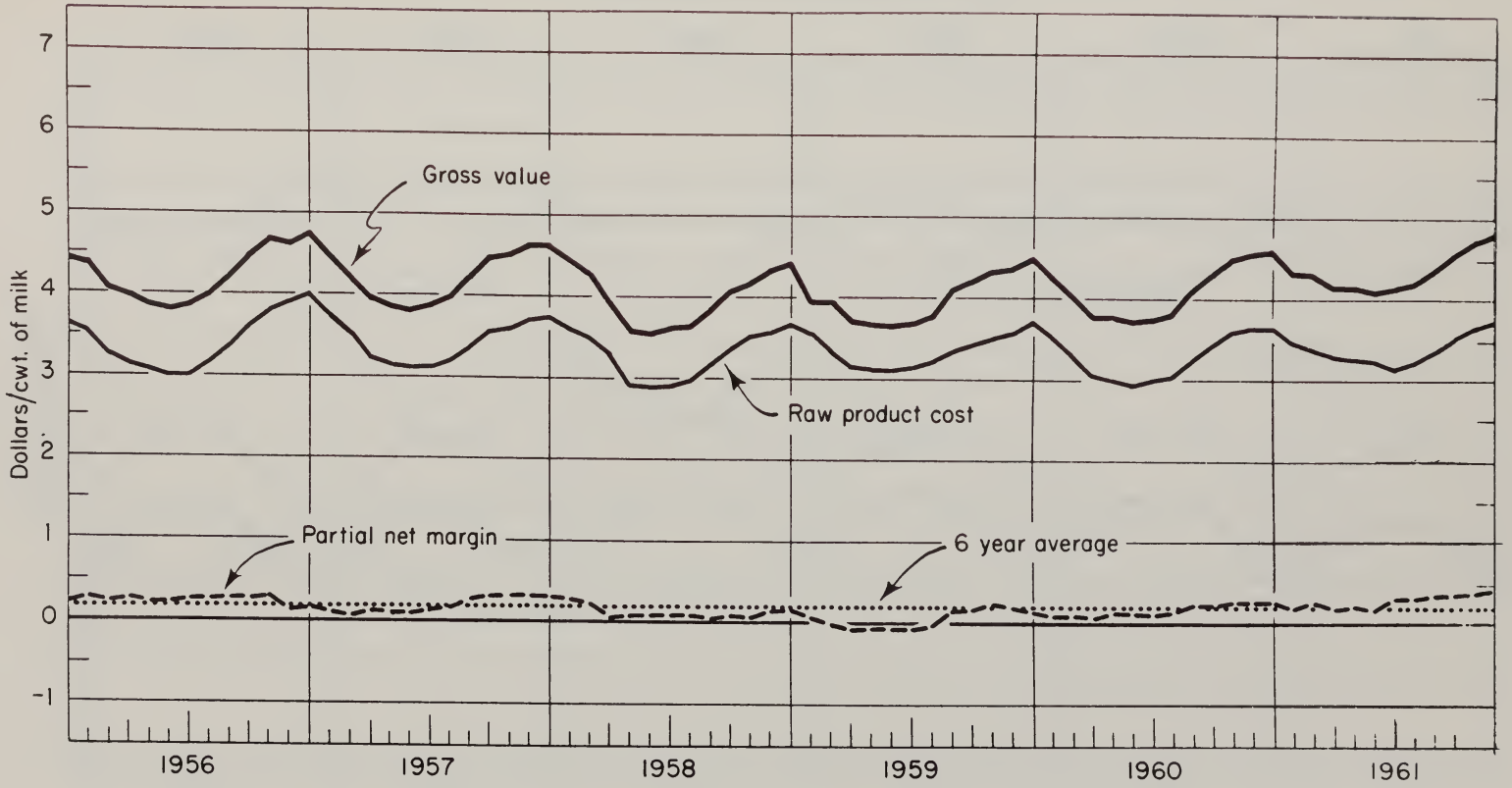
Note: Partial net margin was calculated as follows: From gross value subtract raw product cost and processing cost. The partial net margin is the amount available to cover selling costs, general administrative expenses, and profits.

FIGURE 3. BUTTER AND CONDENSED SKIM MILK: GROSS VALUE, RAW PRODUCT COST AND PARTIAL NET MARGINS, CALIFORNIA, BY MONTHS, 1956–1961



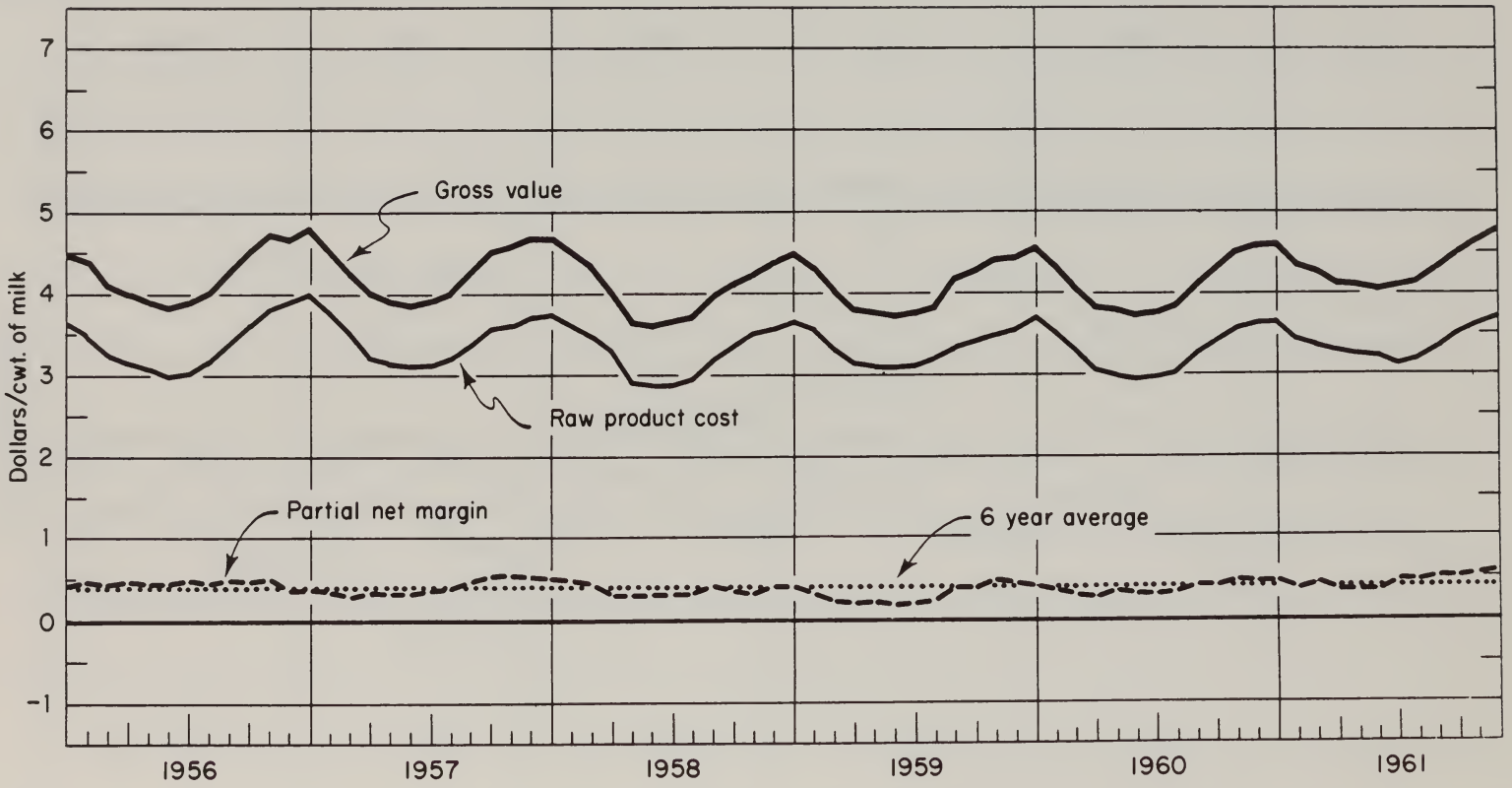
Note: Partial net margin was calculated as follows: From gross value subtract raw product cost and processing cost. The partial net margin is the amount available to cover selling costs, general administrative expenses, and profits.

FIGURE 4. CREAM AND SPRAY PROCESS NONFAT DRY MILK: GROSS VALUE, RAW PRODUCT COST AND PARTIAL NET MARGINS, CALIFORNIA, BY MONTHS, 1956–1961



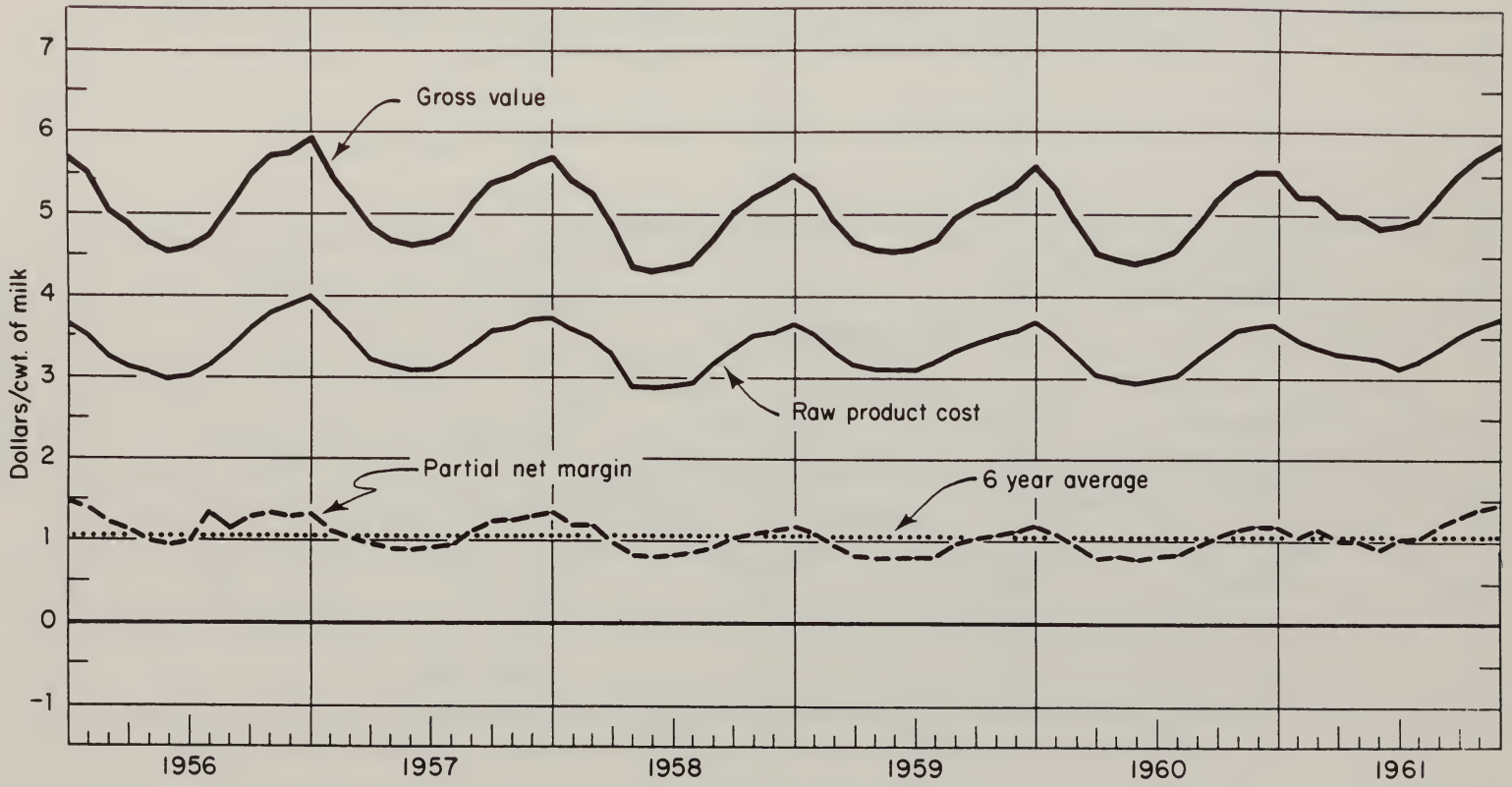
Note: Partial net margin was calculated as follows: From gross value subtract raw product cost and processing cost. The partial net margin is the amount available to cover selling costs, general administrative expenses, and profits.

FIGURE 5. CREAM AND CONDENSED SKIM MILK: GROSS VALUE, RAW PRODUCT COST AND PARTIAL NET MARGINS, CALIFORNIA, BY MONTHS, 1956–1961



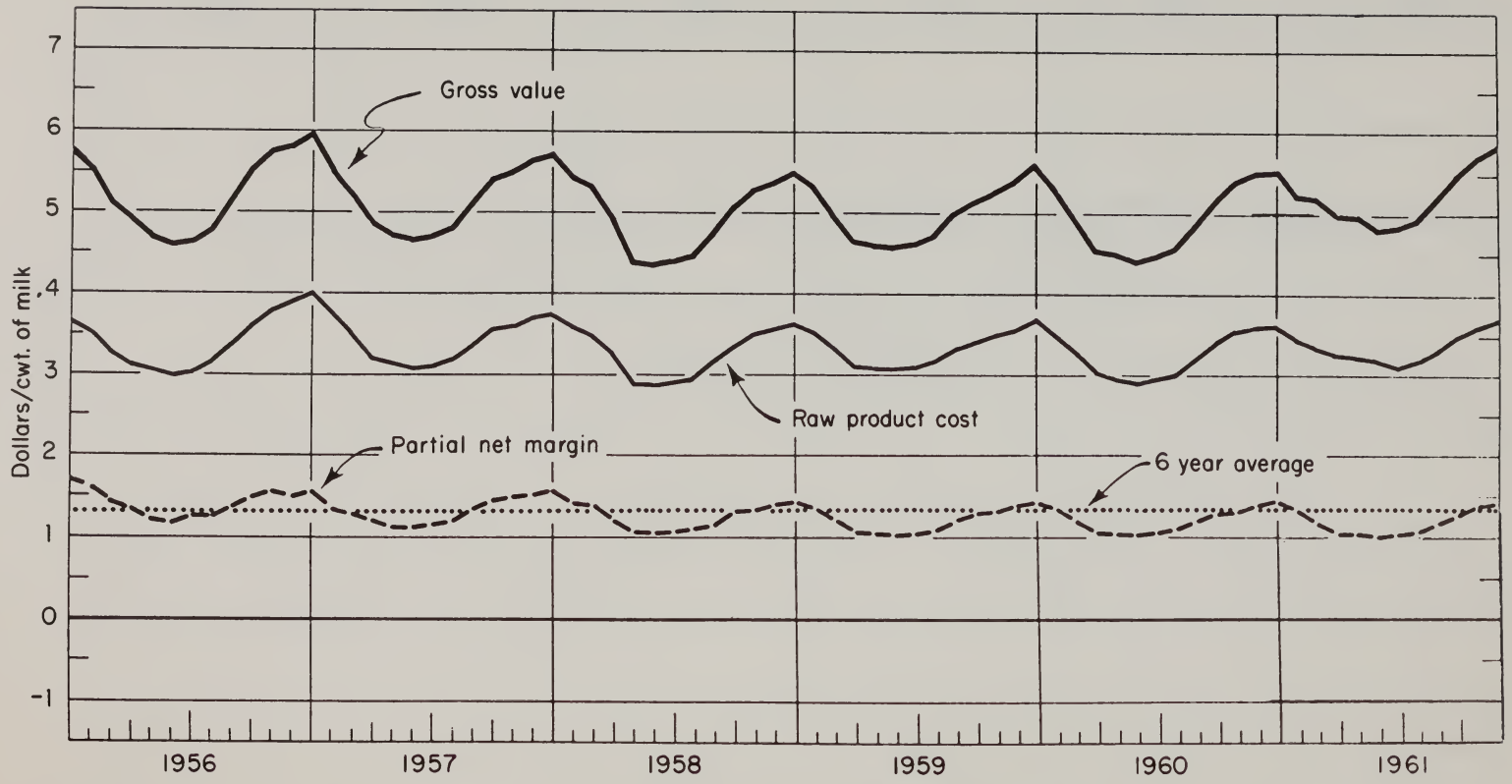
Note: Partial net margin was calculated as follows: From gross value subtract raw product cost and processing cost. The partial net margin is the amount available to cover selling costs, general administrative expenses, and profits.

FIGURE 6. ICE CREAM MIX AND SPRAY PROCESS NONFAT DRY MILK: GROSS VALUE, RAW PRODUCT COST AND PARTIAL NET MARGINS, CALIFORNIA, BY MONTHS, 1956–1961



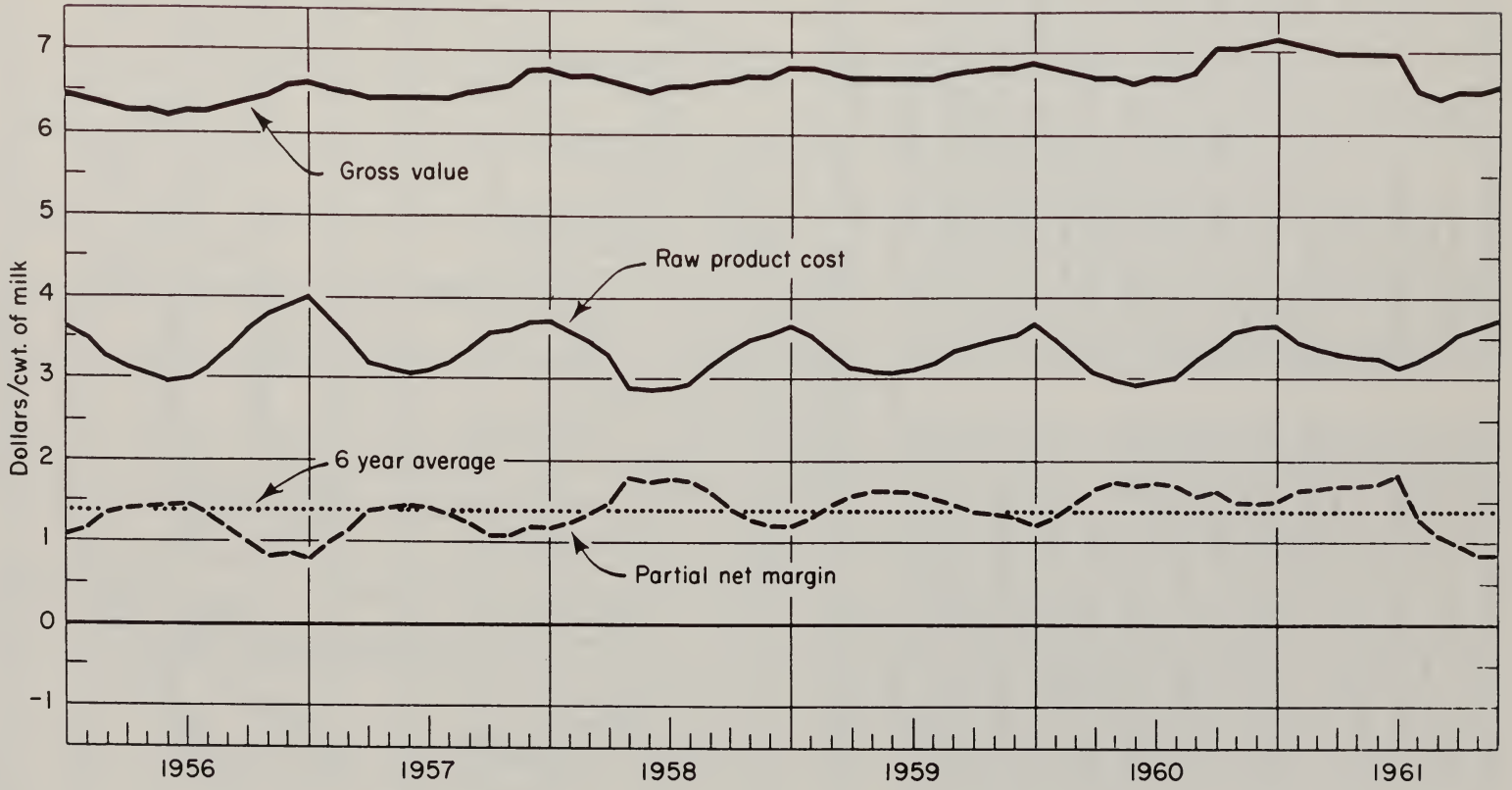
Note: Partial net margin was calculated as follows: From gross value subtract raw product cost and processing cost. The partial net margin is the amount available to cover selling costs, general administrative expenses, and profits.

FIGURE 7. ICE CREAM MIX AND CONDENSED SKIM MILK: GROSS VALUE, RAW PRODUCT COST AND PARTIAL NET MARGINS, CALIFORNIA, BY MONTHS, 1956–1961



Note: Partial net margin was calculated as follows: From gross value subtract raw product cost and processing cost. The partial net margin is the amount available to cover selling costs, general administrative expenses, and profits.

FIGURE 8. EVAPORATED MILK: GROSS VALUE, RAW PRODUCT COST AND PARTIAL NET MARGINS, CALIFORNIA, BY MONTHS, 1956–1961

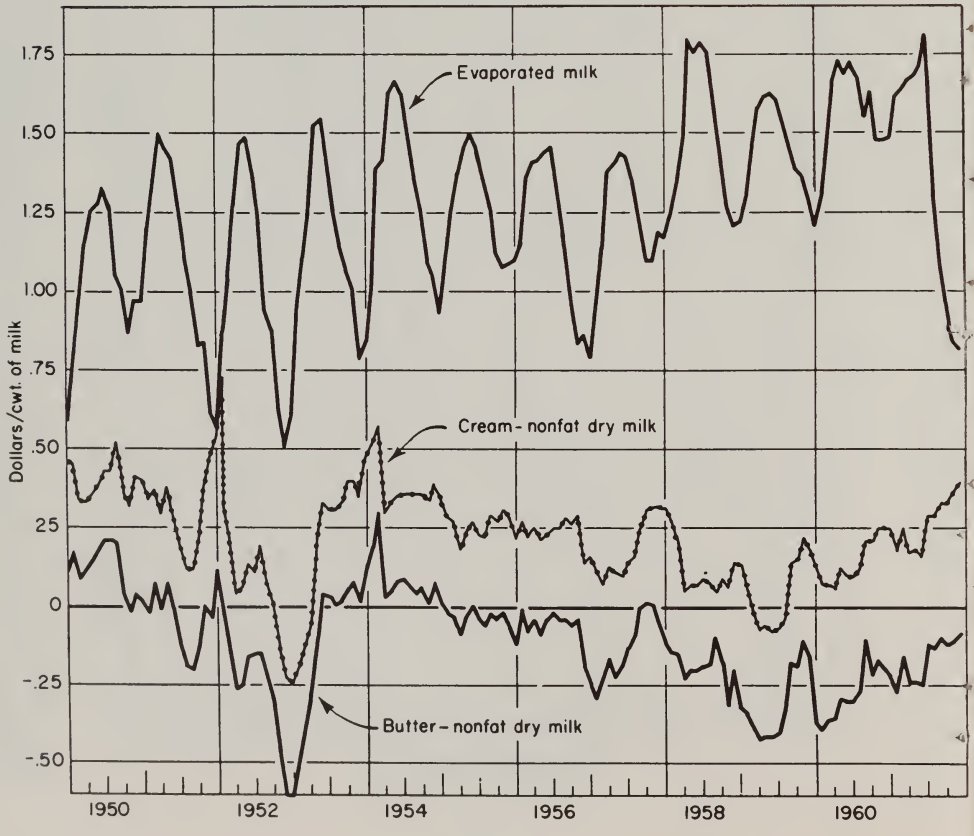


Note: Partial net margin was calculated as follows: From gross value subtract raw product cost and processing cost. The partial net margin is the amount available to cover selling costs, general administrative expenses, and profits.

and hit their lowest levels in January, 1953, probably in reaction to the drastic changes in both milk and product price levels that took place during and following the Korean crisis. The partial net margins for the butter and cream operations were higher during the first part of the expanded period than during the latter part. On the other hand, there has been a rather consistent tendency, interrupted by the sharp decrease during late 1961, for the partial net margins for evaporated milk operations to increase over the entire 12-year period.

As noted, the partial net margins so far discussed have been characterized by a relatively high degree of seasonal variation which tends to obscure underlying trends of movements. These seasonal variations were removed by the process of computing trends through the use of 12-month moving averages (centered on July for the calendar year) of these partial net margins. As shown in figure 10, these trends indicate that partial net margins for butter-nonfat dry milk operations declined from 1950 through 1952, increased from then until early 1954, remained relatively constant for a time, and then generally declined, though not continuously, until 1959. Since mid-1959, the trend in butter-nonfat dry milk partial net margins has gradually increased but has remained negative. One aspect to be noted regarding this method of removing seasonal variation through the use of a 12-month moving average is that the data relative to a period of 12 months

FIGURE 9. PARTIAL NET MARGINS: CREAM-NONFAT DRY MILK, BUTTER-NONFAT DRY MILK, AND EVAPORATED MILK, BY MONTHS, CALIFORNIA, 1950–1961



is essentially "lost." When the 12-month average for a calendar year is centered on the month of July, no observations are available for either the first 6 months or the last 6 months of the period under analysis.

Figure 10 also shows that the trend for the cream-nonfat dry milk operation almost parallels that of the butter-nonfat dry milk combination. This reflects the fact that butter and cream prices tend to be closely related at all points in time. The average of partial net margins for cream was higher throughout the period than that for butter combinations, partly because of the lower processing costs for cream production as indicated in table 1.

Trends in partial net margins for evaporated milk differed from those for the butter and cream operations. These margins increased during 1950 and decreased in 1951, then leveled off during 1952. During the next two years, until the middle of 1954, they increased, then declined until the early part of 1957, and increased again until early 1961, when they dropped sharply.

The relative trends of partial net margins have been compared for the period January, 1956, through December, 1961, for the seven product combinations analyzed. Figure 11 shows the partial net margins for all product combinations relative to those which were calculated for the butter-nonfat dry milk operation. As the base, the margins for butter-nonfat dry milk appear at the zero level over the entire time span. Relative to this base, the trend in partial net margins for the butter-condensed skim milk operation

FIGURE 10. TRENDS IN PARTIAL NET MARGINS: CREAM-NONFAT DRY MILK, BUTTER-NONFAT DRY MILK, AND EVAPORATED MILK, BY MONTHS, CALIFORNIA, 1950–1961

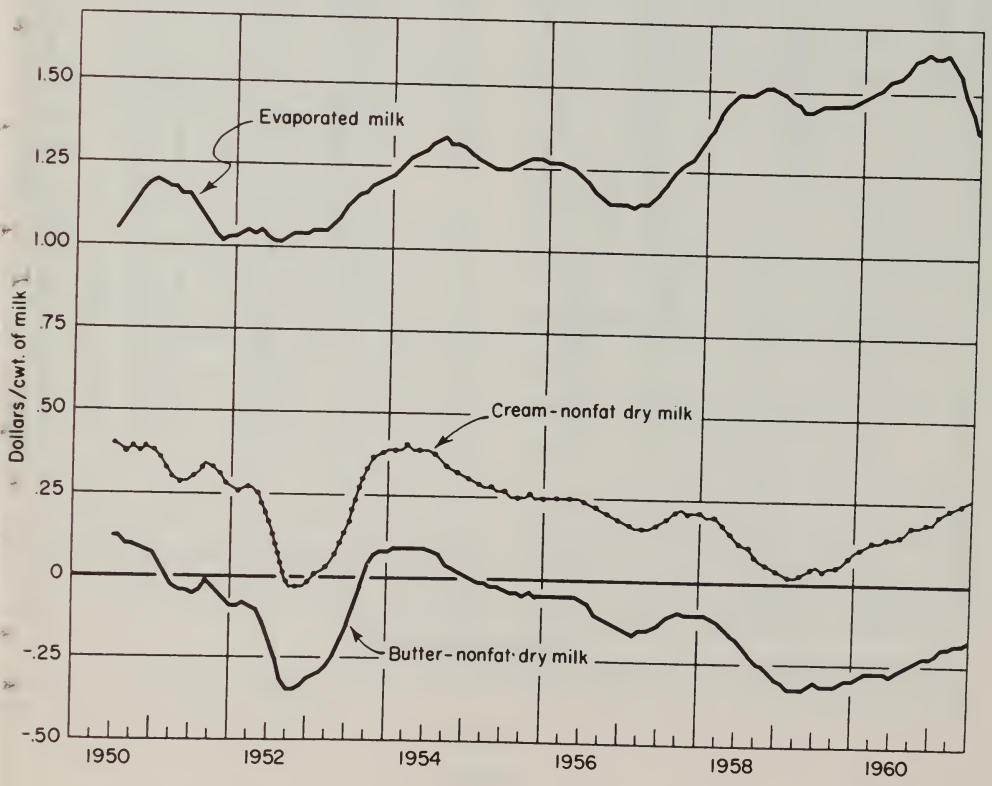
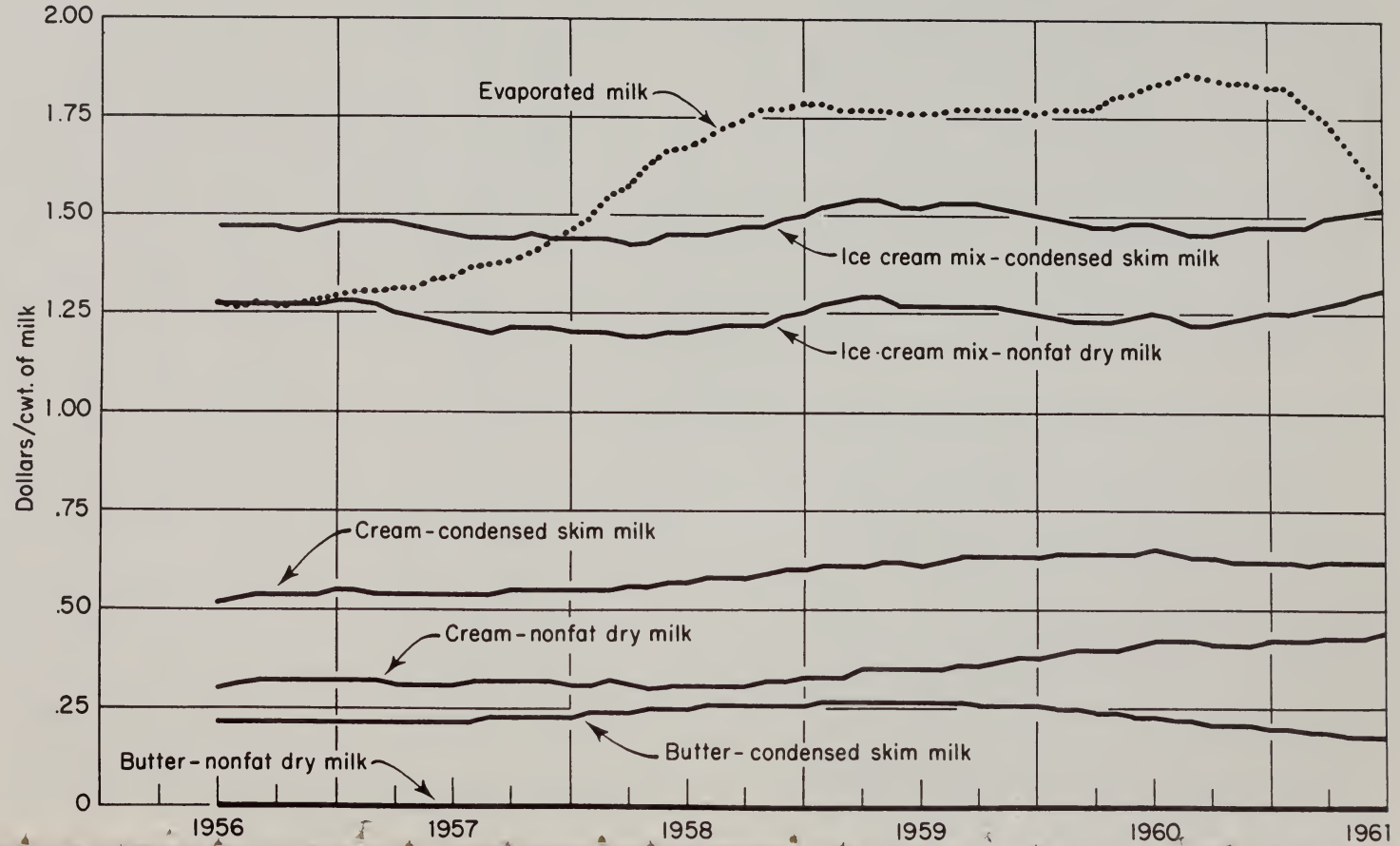


FIGURE 11. TRENDS IN THE RELATIVE MAGNITUDE OF PARTIAL NET MARGINS, 7 PRODUCT COMBINATIONS, BY MONTHS, CALIFORNIA, 1956–1961



ranges from a plus 20 to 25 cents per hundredweight, with a continual increase through 1959 and a continual decrease thereafter. At a somewhat higher level, the cream-nonfat dry milk combination generally demonstrates a continual increase. This comparison of margin trends indicates that, over the six-year period studied, production of condensed skim milk has tended to lose some of its earlier profitability advantage over nonfat dry milk, while, at the same time, cream and ice cream mix usage have become relatively more profitable than the production of butter.

The results of a similar analysis of relative margin trends are presented in figure 12 for the three product combinations for which partial net margins could be computed over the 12-year period, 1950 through 1961. Cream usage increased in profitability relative to butter during the latter part of 1950 and early 1951, then remained relatively constant at about 30 cents per hundredweight through mid-1956, after that became more variable and tended to increase during the most recent years. The relative trends in partial net margins for evaporated milk indicate that, even with greater variability, profitability tended to increase when compared with butter-nonfat dry milk throughout the entire period.

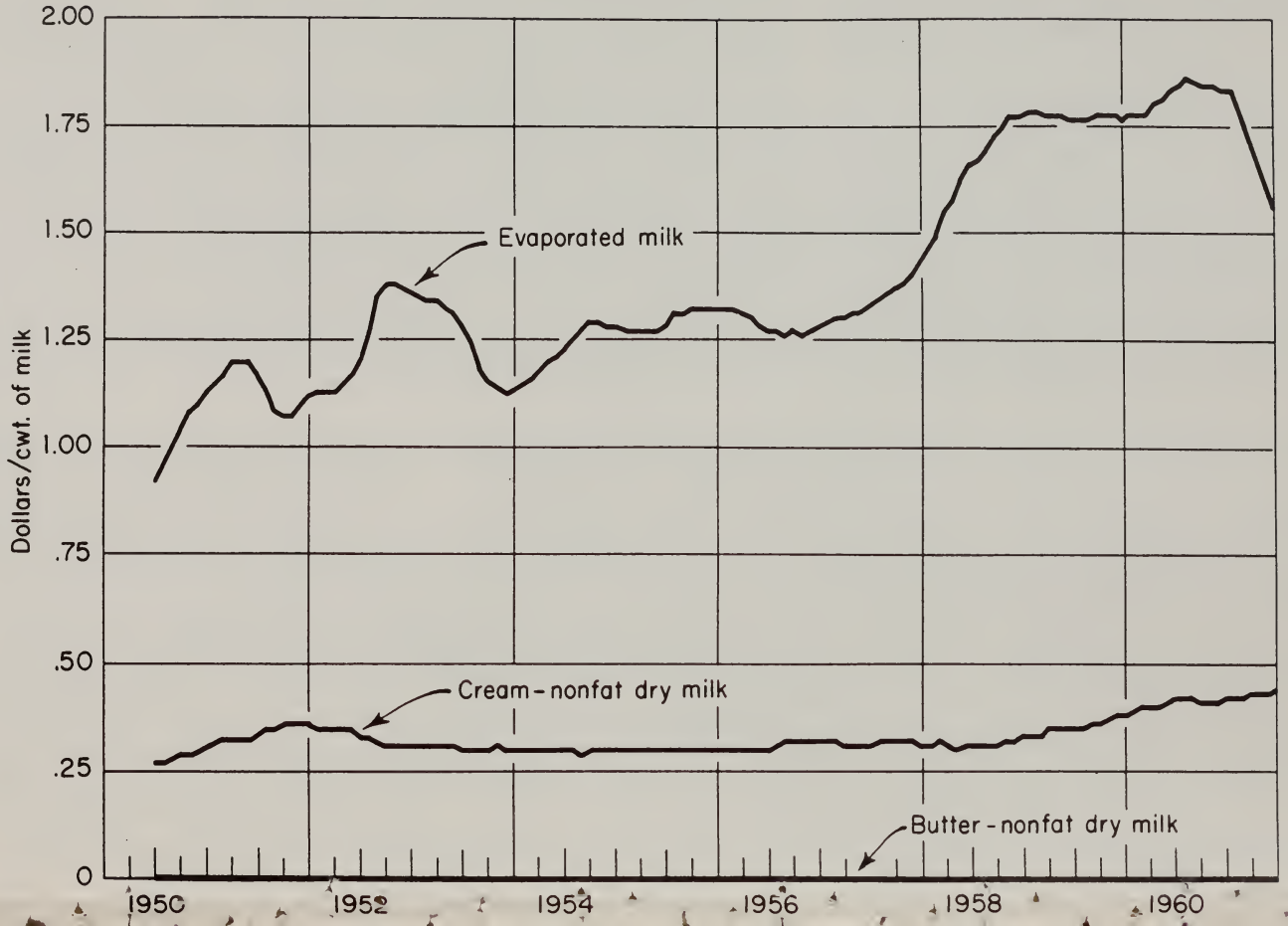
In summary, the results of the various analyses of partial net margins indicate that there is a difference in the level of realized returns available from the manufacture of alternative dairy products. This fact has generally been recognized by the industry and has been demonstrated by similar studies made in other parts of the country.[11] This, in itself is evidence of imperfection in the operation of the marketing system for dairy products. It is generally expected that, under conditions in which a common raw product is used in alternative forms, the available margins would tend towards uniformity. Following this reasoning, it is likely that processors faced with alternative utilizations would tend to shift to those products yielding the greatest returns. Other considerations, however, may prevent some firms from changing their output in the direction indicated by a currently favorable margin. Such considerations may include: (1) expectations that eventual benefits will offset prospective short-run gains in the manufacturing operation itself, (2) inelastic demand for the product with the wider margin, (3) fluid milk operations being so important to the firm as to override a more limited possibility of gain in manufacturing operations, and (4) need to offer buyers a full line of products at all times.

Aside from the indications of imperfection cited above, these analyses show no significant changes in the efficiency of the market for manufacturing milk over the time period under study. In the period from 1956 through 1961, changes in the gross values of products have tended to be reasonably well transferred through the system to reflect these changes in producer prices. Generally speaking, when product prices have increased, producer prices have also increased, although normally not to the same degree—with the result that partial net margins have also increased during these periods. However, decreases in product prices have not been completely transmitted through to the producer price, with the result that at these times, partial net margins have decreased. On balance, these two conditions appear to have offset each other.

The most significant departure from the above pattern occurs in the calculated partial net margins for evaporated milk. In this case, it appears that the profitability per unit of milk processed has increased rather continuously over the past

[11] C. E. McAllister and D. A. Clarke, Jr., *Class III Milk in the New York Milkshed: IV Processing Margins for Manufactured Dairy Products*, U. S. Department of Agriculture Marketing Research Report No. 419, 1960, 102 p.

FIGURE 12. TRENDS IN THE RELATIVE MAGNITUDE OF PARTIAL NET MARGINS, 3 PRODUCT COMBINATIONS, BY MONTHS, CALIFORNIA, 1950–1961



12 years. It is important to note, however, that the market for evaporated milk seems now to be definitely declining, with the result that total production has decreased substantially in California over the past decade or so.

Finally, as noted, the margins for some products—principally butter and nonfat dry milk—are consistently negative while others are positive at varying levels. It can be inferred from this that California producers have been paid prices higher than those consistent with the lowest-valued use—that of butter and nonfat dry milk. On the other hand, they have been paid prices lower than those consistent with the net value of other products, such as ice cream mix. This would indicate that the market has operated in such a way that processors have tended to pay producers a price which is essentially a "blend" of prices intermediate between these extremes. To the extent that the prices, which are returned to the producers, reflect the processor's "blend receipts" based on varying utilization, this can be taken to be further evidence that there is a favorable market performance in the sense that processors have not been able to exercise monopsonistic exploitation.

Producer Prices for Milk for Manufacturing Purposes in Other Areas

To measure the effectiveness with which the "market" for milk for manufacturing purposes in California has operated over recent years, prices paid California producers for such milk were compared with those paid by similar plants located in other major milk producing and manufacturing regions. Specifically, prices paid by San Joaquin Valley manufacturing plants were compared with two alternative Midwest price series. First, California prices, as reflected by prices paid by San Joaquin Valley manufacturing plants, were compared with the reported "Midwest condensery series."[12] This Midwest series was used primarily because of the importance attached to it in establishing surplus milk prices under many of the federal milk marketing orders throughout the country. Second, California manufacturing milk prices were compared with the "Minnesota-Wisconsin manufacturing milk price series."[13] The latter series has recently been developed by the U. S. Department of Agriculture and has been recommended by some as a replacement for the previously mentioned Midwest condensery price series, mainly because it is based on a much greater number of individual plants. At present, the Minnesota-Wisconsin price series is available only since January, 1955. Inasmuch as both price series represent average prices paid for milk of 3.5 per cent fat content, the California milk price series has been adjusted to this level for comparative purposes by applying appropriate butterfat differentials to the reported prices.

Since California is a deficit state in total dairy product production, prices paid for manufacturing milk in this state

[12] The San Joaquin Valley price series, as previously described, has been determined by the average prices paid by condenseries located in that area. The "Midwest condensery series" is that which appears in: U. S. Statistical Reporting Service, *Evaporated, Condensed and Dry Milk Report,* January, 1950, through December, 1961, monthly issues; and U. S. Agricultural Stabilization and Conservation Service, Milk Marketing Orders Division, *Federal Milk Order Market Statistics*, January, 1962, through August, 1962, monthly issues.

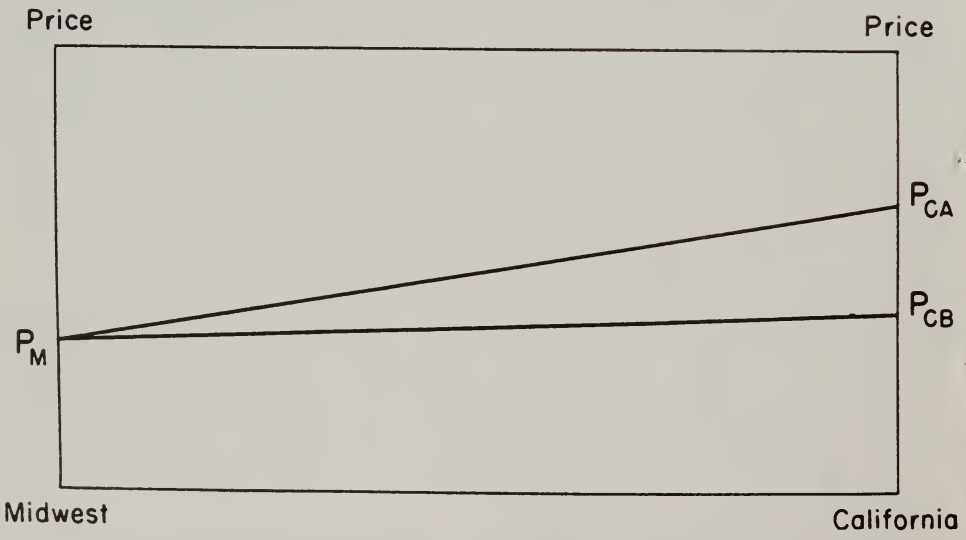
[13] Data for the "Minnesota-Wisconsin series" were obtained by direct correspondence with the Agricultural Stabilization and Conservation Service, Milk Marketing Orders Division, U. S. Department of Agriculture.

will equal or exceed prices paid for similar milk in surplus-producing areas. Assuming equivalent processing costs in California and midwestern areas, California producer prices, under competitive conditions, would tend to exceed those paid to Midwest producers by approximately the differences in the cost of transporting the finished product from producing plant to the respective markets. Therefore, the amount by which California prices can be expected to be above Midwest producer prices depends upon the quantity of milk available for manufacture from local sources and the degree to which California production satisfies total market requirements for the various products.

The nature of the interrelationships among producer prices is demonstrated in figure 13 which charts hypothetical price relationships. For this illustration, the following assumptions have been made: (1) only two products are manufactured from locally produced raw milk in California manufacturing plants; (2) both products can either be produced locally or imported in final product form from some alternative supply area such as the Midwest; (3) one of these products is bulky and expensive to transport, while the other is highly concentrated and can be easily and inexpensively shipped over long distances; and (4) both products are produced in the alternative supply area in quantities sufficient to supply the entire California market. In this diagram, the surplus-producing area is labeled "Midwest" and the local market "California."

As indicated, manufacturing plants in the Midwest produced both products. In the absence of regulated and differentiated prices for milk for manufacture in this area, it is reasonable to assume that the producer milk price will be the same for milk entering each use in that area—at a level designated P_M in the diagram. Furthermore, in the absence of processing and marketing costs, both products will sell at price P_M in this region of manufactured milk production.

FIGURE 13. MANUFACTURED DAIRY PRODUCTS: HYPOTHETICAL PRICE RELATIONSHIPS BETWEEN TWO SUPPLY AREAS*



* Subscript "M" designates price of milk for manufacture in the Midwest, "CA" the price of milk used for a less concentrated product in California and "CB" the price of milk used for a more concentrated product in California.

When these products are shipped into a deficit market such as California, the price the products will bear must be at least the price P_M plus transporting cost. The less concentrated product (A) will then sell at the price P_{CA} in the deficit market; that is, the price at the production area (P_M) plus the cost of shipment. P_{CA} thus becomes the upper limit for the price of locally produced milk and represents the location advantage of milk for manufacturing purposes that is produced close to market. Rationally, since the California market has been defined as deficit in total dairy product requirements, the less concentrated of the manufactured dairy products will have first priority upon the local production of milk available for manufacturing purposes.

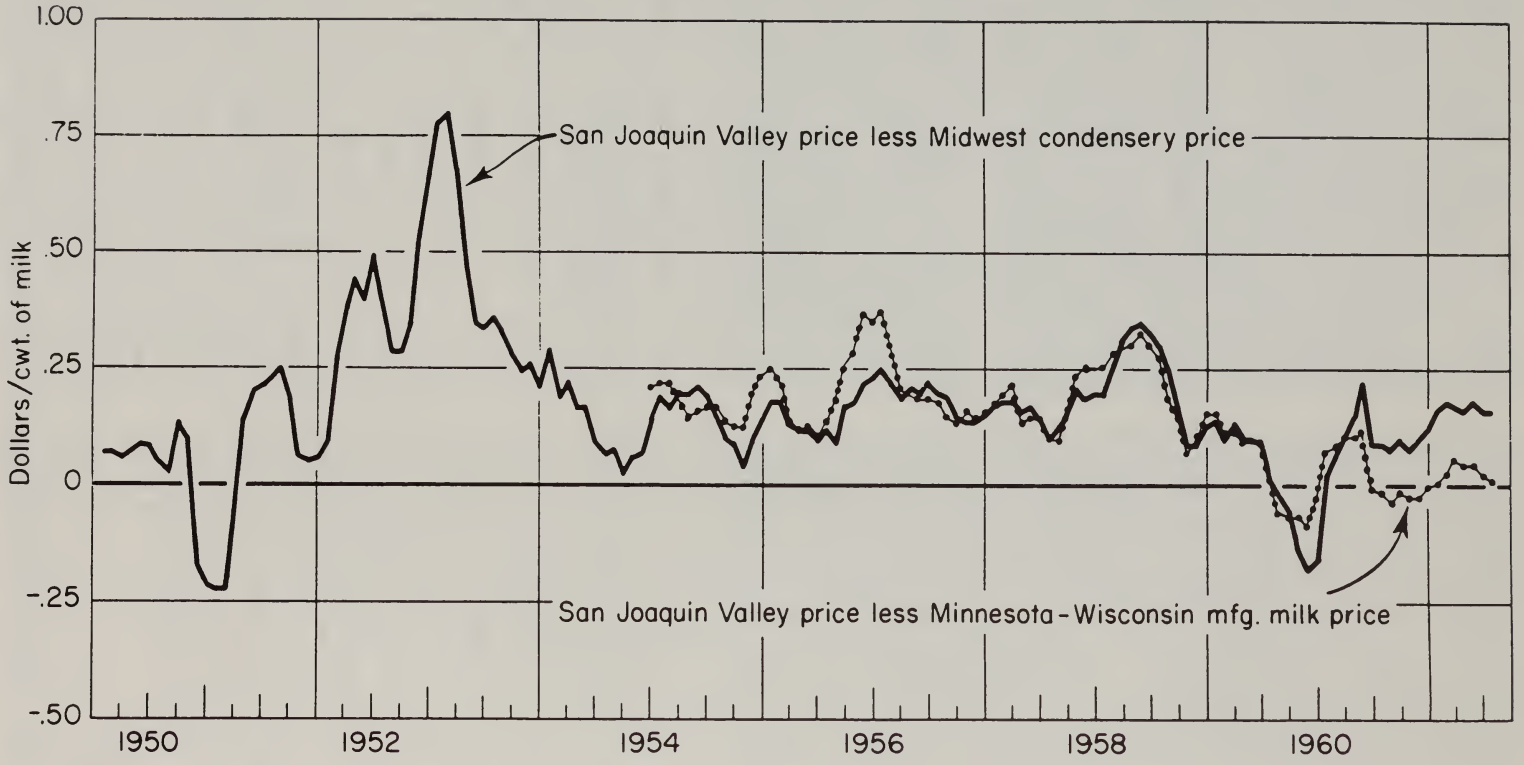
Let us now assume that at all times local production of milk for manufacture exceeds the quantities required for production of the bulky manufactured product. It is then necessary to divert this additional supply into the more concentrated product. Since the concentrated product (B) can be transported cheaply in terms of milk equivalent, the price paid for B at the market (P_{CB}) will be lower than P_{CA}. Therefore, the price that can be paid local producers for such milk entering into product B is limited by P_{CB}.

In the absence of differentiated prices for uses A and B in California, a *single* price will be established for all locally produced milk used for manufacturing purposes. This price will be P_{CA} if the milk supply is less than adequate to fill the need for product A, or P_{CB} if the milk supply is more than enough for product A. Therefore, it is in this sense and for these reasons that the amount by which the price paid California producers for milk for manufacturing purposes will exceed those paid in Midwest areas, depending upon the availability of locally produced milk.

Differences between prices paid by San Joaquin Valley plants and those paid by Midwest condenseries are shown in figure 14 for the period from January, 1950, to August, 1962. From this it can be seen that, except for two periods—one beginning with the fall of 1950 and ending in the summer of 1951 and another beginning in the late summer of 1960 and ending during the spring of 1961—California prices for milk for manufacturing purposes have consistently exceeded the Midwest condensery series.

During the entire period covered, California prices exceeded Midwest prices by approximately 7 cents per hundredweight. During the latter part of 1950 and early 1951, prices paid California producers fell below those received by Midwest producers, for during this time, while milk prices were rising in both areas, prices in California rose less rapidly than did those in the Midwest. For example, in October, 1950, the reported price paid by Midwest condenseries for milk of 3.5 per cent fat content was $3.02 per hundredweight, by San Joaquin Valley plants, $3.15. In November of that year, the price paid by Midwest condenseries increased to $3.12, a rise of 10 cents per hundredweight, while the price paid by San Joaquin Valley condenseries moved up, only 7 cents, to $3.22. These price changes had the effect of decreasing the differential between the two areas by 3 cents per hundredweight. During December of the same year, the Midwest condensery series increased to $3.41 (29 cents over the price paid during the previous month), while prices paid by San Joaquin Valley plants increased only 2 cents to $3.24. Thus, in the space of only three months the differential prices received by California producers had decreased to the point where they were actually receiving 17 cents per hundredweight less than were producers shipping to Midwest condenseries. This situation continued through March, 1951, but in April of that year, prices paid producers in the two regions reached "parity" at a level of $3.63 per hundredweight. This was a period of substantial price adjust-

FIGURE 14. PRICE DIFFERENCES: SAN JOAQUIN VALLEY PRICE LESS MIDWEST CONDENSERY PRICE, JANUARY, 1950–AUGUST, 1962; SAN JOAQUIN VALLEY PRICE LESS MINNESOTA–WISCONSIN MANUFACTURING MILK PRICE, JANUARY, 1955–AUGUST, 1962*



* All prices are based on 3.5 per cent milk fat content.

ment that occurred as a result of the action in Korea. After that date, prices paid by California plants continued to increase while prices paid Midwest producers declined slightly. The result was to widen the excess of prices received by California producers over those paid to Midwest producers.

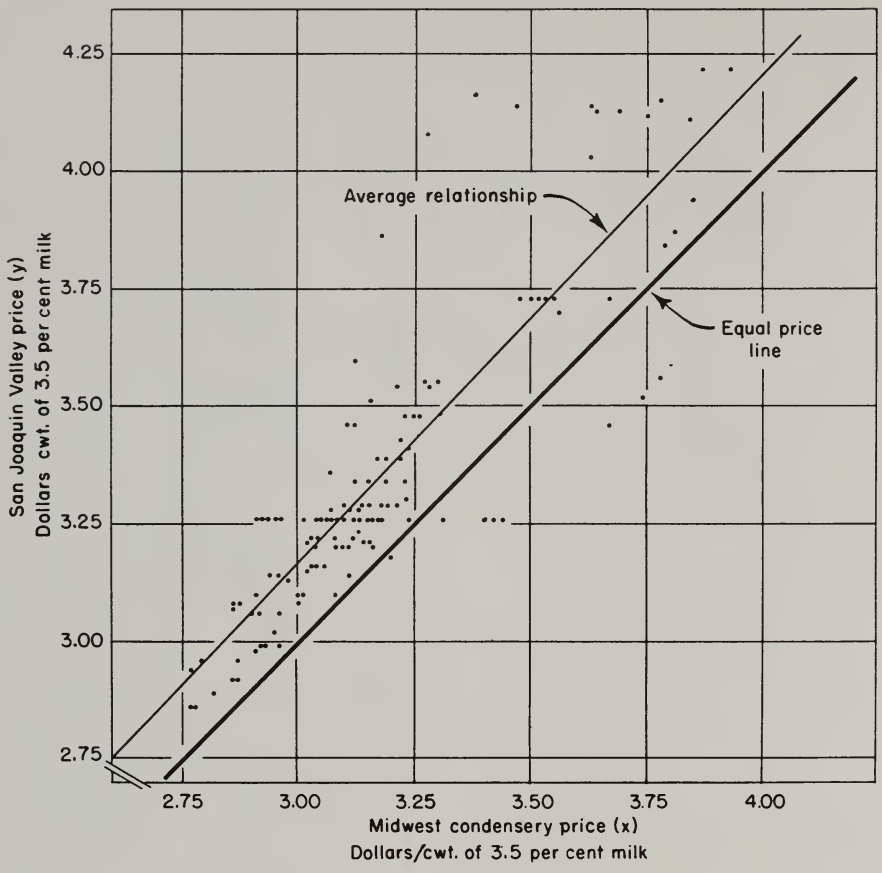
The largest price differential during the period analyzed occurred in March, 1953, when California producers, on the average, were paid 80 cents per hundredweight (based on 3.5 per cent fat content milk) more than was paid to producers shipping to Midwest condenseries. At that time, the San Joaquin Valley price for manufacturing grade milk was $4.08 per hundredweight, while the Midwest condensery price series had dropped to $3.28. Then the price differential declined rapidly until, in 1955, it leveled off at approximately 15 cents per hundredweight. During the early part of 1959 the gap again widened when the San Joaquin Valley price remained relatively constant at $3.26 per hundredweight, while prices paid by Midwest condenseries declined. For example, the Midwest condensery series gradually declined from a level of $3.06 per hundredweight in January, 1959, to a low of $2.91 in June, 1959, at which time the differential between California and Midwest prices reached a level of 35 cents per hundredweight. After this, the differential again gradually declined until it reached a negative level during September, 1960, when both price series began to increase in response to the change in national price support levels. However, prices paid by San Joaquin Valley plants responded less quickly than prices paid by Midwest plants. Then, early in 1961, prices paid by midwestern condenseries again began to drop while those paid by California plants maintained approximately their earlier levels, so that the differential was once again wiped out. In recent months, the differential has remained relatively constant at approximately 17 cents per hundredweight.

A simple correlation and regression analysis was used to determine the nature of the relationship between those two series. In this model, the San Joaquin Valley producer price was used as the dependent variable, while the Midwest condensery price series represented the independent variable. The results of this statistical analysis indicated that slightly more than 75 per cent of the variance in the San Joaquin Valley producer price series could be explained in terms of differences in prices paid by Midwest condenseries.[14] A further result of this analysis indicated that, on the average, the California price was 5 cents greater than the Midwest price and each increase of $1.00 in the prices paid by midwestern condenseries was associated with an increase of $1.04 in the prices paid producers by San Joaquin Valley condenseries (see figure 15).[15] Thus, if a price of $3.50 existed in the Midwest, the expected California price would be $3.69. If the Midwest price increased to $5.00, the expected California price would be $5.25, while if the price in the Midwest dropped to $3.00, the expected California price would be $3.17. Thus it can be seen that the average differential between these price series has not been constant, but tends to increase as the level of prices in the two areas increases. The nature of this relationship is shown by the line on figure 15 labeled "average relationship." Also shown on this figure is a line labeled "equal price line" which merely reflects

[14] The simple coefficient of determination (r^2) was .76.

[15] No test was made to determine whether the regression coefficient (in this analysis, 1.04) was statistically different from 1.0. It is true that if this coefficient were unity, one could argue that these prices were competitive and that the intercept (5 cents) represented the average transportation cost differential over the time period studied. The purpose of this regression analysis was limited in scope to merely a description of the degree and type of relationship that has existed between these price series.

FIGURE 15. RELATIONSHIP BETWEEN SAN JOAQUIN VALLEY PRICE AND MIDWEST CONDENSERY PRICE, BY MONTHS, 1950–1961



the locus of points through which the two price series would have been equal.

As previously mentioned, a second analysis was made comparing prices paid by condenseries in the San Joaquin Valley with those reported in the newly constructed Minnesota-Wisconsin manufacturing milk price series. Results of these comparisons are also shown in figure 14.

For the bulk of the time for which comparative data have been available (since January, 1955), the California manufacturing milk prices have exceeded the Minnesota-Wisconsin price series. On the average, for the entire period, the San Joaquin Valley manufacturing milk price was approximately 14 cents per hundredweight above that reported in the midwestern series. In the most recent years, however, the differential has tended to decrease and has been negative during the latter part of the years 1960 and 1961. Early in 1960, price levels in both areas began to drop, but the decline was more rapid in California than in the Midwest. By August, 1960, producer prices in both areas had reached their low level ($3.10 per hundredweight in California and $3.07 for the Minnesota-Wisconsin series), with a differential of only 3 cents per hundredweight. Beginning with September, 1960, following the change in national price support levels, producer prices began to increase in both areas. As in the comparison with the Midwest condensery price series, California manu-

facturing milk plant prices increased less rapidly and by a lesser degree than did the prices paid by plants included in the Minnesota-Wisconsin series, with the result that the differential became negative. By February, 1961, however, prices in the midwestern area had decreased while those in California remained at relatively constant levels. Then, in the fall of 1961 prices in both areas again were on the increase but, as in 1960, California milk prices failed to respond as rapidly as did Midwest prices.

On the basis of the foregoing comparisons, it appears that, on the average, the relationship between prices paid California producers and those received by producers of milk for similar uses in other parts of the country are in line with expectations. For the most part, the California prices have exceeded those in the surplus producing areas, but by amounts that differed over time. These differences in the amount of differential of California over Midwest prices appear to be related in part to the relative response between the two areas to changes in conditions of supply and demand and in part to the absolute level of prices for milk for manufacture.

Costs of Alternative Ingredients from Sources Other than California

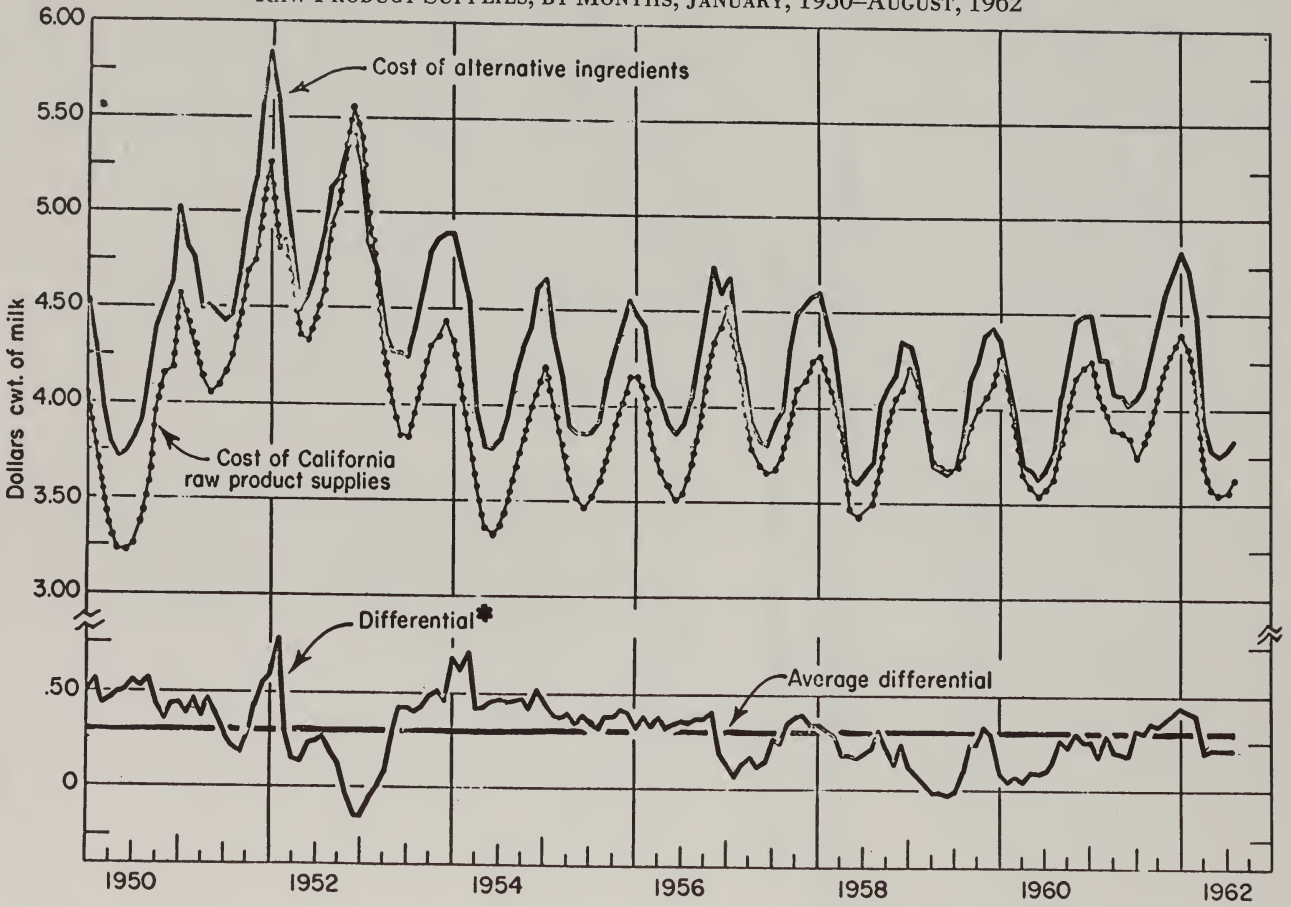
A FINAL MEASURE designed to evaluate actual manufacturing milk prices was based on computations which reflected the f.o.b. plant cost to manufacturing plants located in California metropolitan areas of sweet butter and spray-processed nonfat dry milk, in quantities equivalent to the fat and solids content of milk actually available for manufacture within this state. The sweet butter prices used were determined by adding two cents per pound to the price of butter in San Francisco.[16] Nonfat dry milk prices were those determined by the level of the government support price for spray-processed dry nonfat milk. In the computations that follow the fat price was determined by dividing the butter price defined above by the factor .81, on the assumption that the average fat content of the sweet cream butter is 81 per cent. Similarly, the solids price was determined by dividing the government support price for dry nonfat milk by the factor .985 on the assumption that such dry nonfat solids contain, on the average, 1.5 per cent moisture.

In this analysis, the cost of these alternative ingredients was compared with the cost of California raw product supplies. The latter cost was based upon reported prices per hundredweight of raw milk paid by San Joaquin Valley condenseries, as adjusted for the actual fat content of milk available for manufacture, and with the addition of certain other relevant costs. These additional costs included the estimated costs of processing this milk into cream and condensed skim milk plus approximately 14 cents per hundredweight of raw milk, the cost of transporting these finished products (cream and condensed skim milk) from San Joaquin Valley plant locations to plants located in the metropolitan areas of the state.[17] The data entering into the computation of the differentials between the

[16] This premium for sweet cream butter over the reported butter price was judged to be appropriate for use during the period under consideration. The San Francisco butter prices used in this comparison were the same as those discussed in the section on partial net margins.

[17] The processing cost estimates used in this analysis were the costs developed and described in the earlier section dealing with partial net margins.

FIGURE 16. COMPARISON OF COST OF ALTERNATIVE INGREDIENTS FROM SOURCES OTHER THAN CALIFORNIA WITH COST OF CALIFORNIA RAW PRODUCT SUPPLIES, BY MONTHS, JANUARY, 1950–AUGUST, 1962



* Differential is equal to cost of alternative ingredients less cost of California raw product supplies.

California raw product cost and the cost of alternative products are given in table 23, page 122.

These several computations resulted in price estimates that were consistently above the prevailing costs obtained when California-produced raw product supplies were used (see figure 16). On the average, during the entire period from January, 1950, through August, 1962, the differential between the cost of bringing alternative ingredients to California plants, as represented by these calculations, and the prevailing manufacturing prices was 29 cents per hundredweight. Figure 16 shows clearly that the level of the average differential (that is, the difference between the estimated cost of importing alternative ingredients and the cost of using California-produced supplies) remained fairly constant around this average differential. However, short-run deviations from average differential showed a high degree of variation. During most of the years 1950 and 1951, the amount of the differential was substantially above the average, reaching its highest point in early 1952 at 77 cents per hundredweight. Immediately thereafter, however, the differential dropped substantially, to become a negative amount by the end of 1952.

During most of 1955 and 1956 the differential between these two series hovered around an average of about 35 cents per hundredweight, but by the end of 1956 it had fallen to a level of about 20 cents per hundredweight. Throughout the years 1957, 1958, 1959, 1960, and early 1961, the amount of the differential generally remained below the average, but by the latter part of 1961 it had again returned to its average level of approximately 30 cents.

If the assumptions which underlie these calculations are correct, it appears that the manufacturing milk prices (measured by the prices paid by San Joaquin Valley condenseries) effective during the 11½ years under consideration have generally been at levels which have made it more attractive for California processors to purchase California raw product supplies than to import alternative ingredients from areas outside the state.

Significance of Comparisons of Manufacturing Milk Prices

NONE OF THE PROCEDURES discussed in the previous sections gives an absolute measure for evaluating either the level or the movement of manufacturing milk prices in California. Each focuses attention on *some* of the economic forces which determine appropriate price levels for this type of milk in this area, but none of these is an indicator that focuses attention on *all* of the price-influencing variables.

Furthermore, no effort has been made here to cover all of the possible yardsticks that might be compared with actual California manufacturing milk prices. For example, it might be both interesting and informative to analyze the relation between the changes in manufacturing milk prices and such additional factors as the cost of milk production, prices of other food products, changes in disposable income of consumers, or various indexes of the general level of economic activity within the state. Moreover, an alternative measure of the profitability of manufacturing operations within California could perhaps have been obtained through a study of historic changes in the profit-and-loss position of firms primarily engaged in manufacturing dairy products in this state. Another possibility might have been an analysis of the size of the "thirteenth checks" (patronage refunds)

distributed by operating cooperatives and by proprietary firms in this area. But these comparisons, too, would serve only as rough guides since they also focus attention on but a few of the price-determining forces.

In brief, the previously discussed analyses have yielded results which indicate that in recent years the market for milk for manufacturing purposes in California has operated in a manner reasonably consistent with what would be expected under perfectly competitive conditions. The major exception to this conclusion is the fact that the *levels* of partial net margins varied substantially among alternative product combinations, a situation which has been observed to exist also in other markets in different geographic areas. Undoubtedly there are reasons which can explain this fact. Regardless of this, the existence of these differences in the measures of relative profitability from alternative utilizations raises the question of the feasibility of establishing separate use-classifications for milk for manufacturing purposes.

Classified Pricing for Milk for Manufacturing Uses

From the standpoint of California milk producers it might be desirable to "separate" the products manufactured from milk available for this purpose into more than one price class in an attempt to "exploit." at least in part, whatever profit advantages may exist among the different types of products produced. In fixing prices at the producer level, the Bureau of Milk Stabilization has in recent years made use of two distinct classes for Grade A milk in excess of Class I uses—classes II and III. Broadly speaking, the lowest price class (Class III) includes milk used for the production of butter and nonfat dry milk solids as well as the so-called "hard" cheeses, while the remaining products manufactured from this milk fall into Class II. For the most part, the price differential between these two classes has been approximately 20 cents per hundredweight.

Roughly one half of the total milk available for manufacture in California comes from sources that are within the regulatory jurisdiction of the Bureau of Milk Stabilization—that is, Grade A milk in excess of Class I usage. The remaining portion of the total milk supply available for manufacture is produced as manufacturing grade milk, unregulated by this pricing agency. Since manufacturing grade milk can be substituted for non-Class I Grade A milk, dairy product manufacturers can always use manufacturing grade milk for Class II purposes. Under present circumstances, therefore, the opportunity for any substantial premiums to exist for milk for Class II purposes over manufacturing grade milk prices seems limited.

Senate Bill 40, introduced in the 1961 Legislature, contained provisions for the pricing of *all* milk produced in California, including manufacturing grade milk as well as that produced under Grade A conditions. Also included in this proposed amendment to the Milk Stabilization Law was the provision for uniform class pricing procedures for milk not entering Class I outlets. In the discussion which follows, it has been assumed that all of these provisions are made effective and that no opportunity for "leakage" is possible between the markets for milk produced under manufacturing grade conditions and those for Grade A supplies in excess of Class I uses.

The earlier analysis of partial net margins showed that processors who have outlets for products in the form of ice cream mix or evaporated milk are in a more favorable profit position than are those whose outlets are in the form of either cream or butter and the alternative uses of the nonfat solids components of milk. In considering the feasibility of any substantial price differentiation for milk entering alternative product usage,

two important possible effects must be noted: first, the effect of price differentiation on the *level* of prices realized from the lowest-valued use, and second, its effect on realized utilization in the higher-valued classifications.

When considering the practicability of class pricing, still another factor must be borne in mind when a pricing agency, such as the Bureau of Milk Stabilization, is responsible for all the milk produced finding a market, the *highest* price that can be set for milk entering the lowest-price usage is the *unique* price under which conditions affecting both supply and demand are exactly met. This is the price called the "purely competitive" price level. Errors in judgment or the lack of appropriate data can result in established prices higher or lower than this competitive price. Therefore, errors of the pricing agency must always be on the low level. This absolute statement does not hold true, however, for *all* of the administered prices when more than one price is set for the same commodity; but it does hold true for at least *one* of these prices. Prices established for Class I and Class II milk, therefore, could quite possibly be out of line without necessarily resulting in unsold milk. The existence of Class III, the lowest use-class, makes it possible for supplies in excess of Class I and Class II needs to find a market in some use. In this role, however, the lowest class price must be sufficiently attractive to buyers to make sure all supplies are taken. For this reason, it is likely that mandatory price regulation of all milk within the state would require a price level for the milk entering the lowest use classification that is substantially below levels currently being paid for manufacturing grade milk which, in turn, provides the base for established Class III prices.

At the same time, in establishing prices for raw supplies for different products, care must be exercised so that normal and desirable utilization patterns do not become distorted. While Class I and Class II prices could be out of line without resulting in unsold milk, the utilization patterns could be (and would be expected to be) drastically affected by nonalignment. This is one of the reasons why the pricing of milk for manufacturing purposes is considerably more difficult than pricing milk entering fluid uses. From the standpoint of the well-being of local producers, and in the interests of maintaining the economic efficiency of the marketing system, it would be expected that the products manufactured in a deficit area such as California would tend to be most bulky and perishable. This, of course, is because these products are likely to be the most expensive to transport per unit of milk-equivalent. As indicated in figure 13, these are also the products from which local producers may expect the highest returns. Should differentiated price levels be established that make the highly concentrated low-valued products, such as butter and dry nonfat milk solids, relatively more attractive to processors, local manufacturing operations would undoubtedly be affected, thus influencing the realized returns of producers.

The use of more than one price-classification for milk for manufacturing purposes essentially extends the classified price provisions used in most fluid milk markets. Classified pricing permits effective separation of the differing demands that exist for raw whole milk. Thus, milk of similar quality is not sold at a single price in a given market, but separate prices are established depending upon the ultimate use of the different elements of the milk.

Many products, both agricultural and industrial, are made from raw materials that can be used in various ways. Wheat may be ground into flour and then made into a variety of bakery goods; it may be also offered to consumers in the form of breakfast cereals, or it may be fed to livestock. Basic steel plate may be used

in the manufacture of automobiles, household appliances, tin cans, toys, or hundreds of other articles. In similar fashion, milk may be sold to consumers in the bottle, separated into cream, or manufactured into a variety of dairy products. Although milk for manufacturing purposes may not enter into fluid milk uses, it is used in a large number of dairy products, many of which may have separate demands. The demand by purchasers of multiple-use raw products, therefore, is actually an aggregate, or composite, of several individual demands. In many cases, the elasticities of these component demands may vary considerably from use to use, and become the basis for differential pricing.

It is thus clear that the demand by the processors for locally produced raw milk for manufacturing purposes is a "derived demand." It reflects, in part, for each of the alternative products for which it may be used, the quantities of finished products which can be sold to consumers at alternative prices during any time period and the costs of processing and marketing these products. On the other hand, this demand is strongly influenced by the availability of alternative-source supplies which normally do not fall under the jurisdiction of local price-administering agencies. The derived demands refer to prices that will be paid to farmers by milk processors in a local area and are greatly influenced by the quantities of milk available for alternative purposes.

At least two factors determine the specific type of program applied in any given situation: the local nature of the market, that is, the number and types of commodities which will be produced from available supplies, and the administrative problems involved in establishing and enforcing multiple-price programs.

In considering the number of classes to be established for milk entering manufacturing uses, attention should first be directed to products included in the lowest price classification, for this category serves as a "safety valve" in protecting the price structure for the entire market. If this price structure must permit the marketing of the entire supply produced within an area, then only price levels attractive to raw milk buyers at all times should be established for the lowest value classification. Products to be included in this lowest price category also depend upon the available milk supply and the local market demand for products that can be manufactured from this supply. In the past, producer returns have been lowest for milk used for the relatively highly concentrated products such as butter and the "hard" cheeses, for these products can be shipped at low cost over relatively long distances. The market prices for these products (which influence the prices producers can receive from processors) are largely determined on the basis of supply and demand forces which focus on the vast manufacturing capacity of the largely surplus milk producing regions.

Inasmuch as some milk must be used for low-valued products at any or all times during the year, the *maximum* price charged for milk in the class in which these products are included must be sufficiently low to provide a reasonable profit to the processors of these low-margin products. Hence, the lowest price classification should be reserved for those products for which (from the standpoint of the local market) the quantities taken are most sensitive to changes in price. These products are also normally subject to storage. By this means, this low-value category can act as a "safety valve" to reduce market pressure and assure an outlet for all supplies.

The products to be included in any possible intermediate classes also depend upon differences in the demand elasticities for these remaining products. If substantial differences in these demand elasticities should exist, it would be advantageous from the producer standpoint to make further class segmentation.

Problems of Multiple-Class Surplus Pricing.—At the present time, little is known about the elasticities of demand for locally produced raw milk supplies entering such outlets as ice cream, "soft" cheeses, cottage cheese, and the various cultured products. Logically, these demands will depend partly on the relative profitability of producing and marketing the different products and, to a much larger extent, on the prices of alternative source supplies.

Some insight into the nature of demand for milk for alternative products can be obtained through the following hypothetical situation. Assume two alternative product combinations—one, the production of 40 per cent cream and nonfat dry milk; the other, an ice cream mix-cottage cheese operation. Approximately the following quantities of these products can be obtained from a hundredweight of 3.5 per cent milk fat content:

From a cream-nonfat dry milk operation:

- Cream (40 per cent milkfat)—8.521 pounds
- Nonfat dry milk solids—8.110 pounds.

From an ice cream mix-cottage cheese operation:

- Ice cream mix—20.272 pounds
- Cottage cheese—11.745 pounds.

Assume further that the following prices exist for these products:

- Cream—32 cents per pound
- Nonfat dry milk—13.75 cents per pound
- Ice cream mix—16.5 cents per pound
- Cottage cheese—12.5 cents per pound.

By applying the appropriate product yields to the respective product prices in the cream-nonfat dry milk operation, it can be seen that the value of cream produced is about \$2.73 and the value of the nonfat dry milk is \$1.12. These two amounts total \$3.85, the combined value of the products manufactured from this milk. After deducting from this an estimated processing cost of 60 cents per hundredweight of milk, the estimated "net value" is \$3.25 per hundredweight.

A similar computation for the ice cream mix-cottage cheese operation gives the value of ice cream mix at about \$3.34 and the returns from the sale of cottage cheese at \$1.47—a total of \$4.81. When an estimated processing cost of 60 cents per hundredweight of milk is deducted from this figure, the estimated "net value" is \$4.21.

Taken alone, this information *suggests* that the demand for milk for these two purposes might differ. To the extent to which the assumptions made concerning product yields, f.o.b. plant-product prices, and processing costs are realistic, alternative profit opportunities in the manufacture of these different product combinations are indicated. Based on this difference alone, one might argue that processors can "afford" to pay higher prices for raw milk going into ice cream and cottage cheese than for that entering the cream-nonfat dry milk processes. However, the demand for raw products from local sources for any particular use depends only *in part* on the amount of the return which processors can expect to receive from the manufacture and sale of the finished product. Certainly, no milk will be purchased for any given use at prices which will not return the raw product cost plus the expenses of processing and marketing the finished product (including a return for normal profit). This then sets one type of upper limit to the level of raw product prices over any substantial time period.

To demonstrate the point that raw product demand by processors is only partly determined by profitability, let us make the following further assumptions. To produce the approximately 20¼ pounds of ice cream mix that can be obtained from a hundredweight of 3.5 per cent whole milk, more than 2½ pounds of

milk fat and a little more than 2 pounds of nonfat solids are required. To produce 11¾ pounds of cottage cheese will require slightly less than ½ pound of milk fat and about 2½ pounds of nonfat solids. We further assume that the processor of these two products has the alternative of obtaining the milk fat and nonfat solids requirements from sources other than locally produced whole milk supplies. For example, the milk fat can be obtained either in the form of cream or sweet cream butter from alternative sources. Similarly, the nonfat solids needs can be secured in the form of condensed skim milk or dry nonfat milk. At prices, for example, of 32 cents per pound of cream (as given above), or, equivalently, 64 cents per pound of sweet cream butter, and with alternative source prices for nonfat solids of approximately 14 cents per pound, the combined fat and solids requirements for these products in the amounts required to manufacture the equivalent of one hundredweight of 3.5 milk can be obtained for about $3.00. If the added cost of reconstituting these "dry" ingredients is not substantially higher than 25 cents, the ice cream mix-cottage cheese manufacturer will find that the "alternative cost" of using ingredients other than raw milk supplies is quite closely related to the "net value" of the raw milk used for the production of cream and dry nonfat milk. On the basis of these assumptions, the milk demand for ice cream mix and cottage cheese purposes would be virtually nonexistent at prices substantially in excess of the $3.25 level indicated in the above hypothetical example, since the "demand" for any commodity, including that for raw supplies of milk by processors, refers to the schedule of quantities that will be taken at alternative prices.

A word of warning: the assumption that the conditions affecting the demand and supply of milk are known and, therefore, "appropriate" prices can be determined by the pricing agency is, for reasons presented earlier, quite unrealistic.

When conditions exist in which "inappropriate" prices or price relationships occur, these may be expected to influence processors' decisions on utilization. For example, let us assume that the price of milk for ice cream has been set "too high" relative to the price of similar milk going into the manufacture of butter. Manufacturing margins for the production of butter from local supplies would then become relatively more favorable than those for ice cream production. This would have the effect of discouraging utilization of milk which returns larger proceeds to producers while encouraging the use of outlets which result in lower prices. As a result of the dangers of distorting normal utilization patterns through the malalignment of class prices, it may be in the long-run interest of producers to keep the number of classes to a minimum, in spite of the apparent loss in short-run opportunities.

The Use of Formulas in Establishing Prices for Milk for Manufacturing Uses

IN THIS SECTION, the question is raised as to whether some type of formula could be successfully used either (1) in judging the appropriateness of the level of prices producers receive for their milk or (2) as a basis for establishing such prices in the event that milk for manufacturing purposes is brought under the jurisdiction of the Bureau of Milk Stabilization.

In recent years, all markets under federal milk regulation have used a

"formula" method for determining Class I prices. Most of these federally regulated markets also use some type of formula for establishing prices for pooled milk in excess of Class I requirements. The term "formula" denotes a basis, more or less fixed, for "automatically" making changes in prices to be paid to producers for milk.

Two different types of formulas have been used for establishing Class I milk prices. One type relates fluid milk prices to manufacturing milk price levels, and the other is based on general economic activity. The former usually includes either or both the prices paid for manufacturing milk at specified plants and the current prices received from the sale of dairy products, such as butter, nonfat dry milk, and cheese. The latter relies primarily on movements of regularly published indexes of general economic activity and consumer income and may include indexes of cost factors, such as feed prices and farm wages. Most of the formulas used today for establishing prices for surplus milk are based either on milk prices paid for similar purposes by manufacturing plants in nearby areas or on the movements of current prices for dairy products.

Regardless of the type of formula used, or the type of milk to which it is applied, the results of formula calculations do not pretend to reflect all of the forces of supply and demand which focus on a particular market, and the specific components are actually of secondary importance. Thus, milk price formulas cannot be accepted as exact indicators of "proper" price levels. Instead, such formulas must be considered merely as devices which are useful in determining the time and direction for price changes, but which require continual study and modification. The success of a particular formula can be judged only pragmatically: it is "good" so long as it "works all right."

A formula was used early in 1948 to price Class I milk in California. This formula was based on feed costs and manufacturing milk prices, with the greatest weight placed on the latter. When manufacturing milk prices increased contraseasonally during the early summer of 1948, producers, as well as others, felt that an increase in Class I prices was undesirable, and use of the formula was discontinued on July 1, 1948.

Formulas have also been used in the past to establish prices for manufacturing milk. From 1933 to the middle of 1947, formulas were used under a national agreement to establish minimum prices to be paid producers for milk delivered to condenseries. Under this program, the state of California was designated as a region, and minimum prices per hundredweight for 3.5 per cent milk were set by the following formula: the San Francisco price for 92-score butter was multiplied by 4.2, which represented the approximate yield of butter per hundredweight of 3.5 per cent milk. At no time during its operation did this formula produce a minimum price as high as the average price actually paid by California condenseries. The discrepancy between the formula minimum price and the actual price widened during the war period and, in 1946, averaged $1.60 per hundredweight, or about 46 cents per pound of milk fat. This program was discontinued in 1947.

In any discussion of milk price formulas, a major fundamental difference should be noted between the nature of the Grade A market and the manufacturing milk market. Because of the bulk and perishability of fluid milk and the existence of rigorous sanitary requirements, producers of market milk are confined to areas surrounding their markets. Grade A markets are, therefore, predominantly local. As a result, fluid milk markets are not in direct competition with distant areas, and prices for market milk can be established and maintained successfully within fairly broad limits. Thus, for all practical purposes, fluid milk prices in

California may be established independently of fluid milk prices in other states. It is still possible that a price established at levels too high may cause internal problems of surplus milk production and, conversely, that prices too low may set in motion forces which ultimately will result in an undersupply of milk; but any inaccuracies that may exist in fluid milk pricing will not normally generate problems of an external nature. In this sense, the Director of Agriculture can say that *this is the price* that must be paid for Class I milk to all producers delivering milk to distributors in California. The consumer price can then be varied to match this given level of producer prices, and consumers are free to determine the quantities they will buy at these fixed prices. The quantities purchased then become the major restriction upon excessively high prices. This does not mean that California may not have a difficult surplus problem due to expanded production and reduced sales, or that the Director may not be subject to the charge of neglect of his responsibilities to the public welfare should the prices established be too high. It simply means that if consumers in California want milk, they must pay the established price. Competition from lower-priced milk from outside areas will tend to be eliminated by high transport costs, rigid inspection, or other restrictions.

The manufacturing milk situation presents a different picture. The market for manufacturing milk is in fact the market for the end products; it is nationwide and, in some aspects, even worldwide. Unlike fluid milk, manufactured dairy products are usually concentrated and nonperishable and can be transported from one area to another at low cost and with little or no loss in quality. If for any length of time the price of butter in San Francisco is higher than the Chicago price plus transportation charges, Midwest operators will find it more profitable to ship their product west than to sell on the Chicago market. As a result of the increased supply, the local price will become depressed until it again approximates the Chicago price plus cost of transportation to West Coast markets.

For these and other reasons, formulas or other pricing procedures for manufacturing milk must function within the limits imposed by these interregional price relationships. Prices paid to producers should be directly related to the values of the products manufactured from the milk. Producers can have little hope of receiving more than the net proceeds from the sale of the finished product. If raw product prices exceed these net proceeds, the loss would eventually force processors to discontinue these operations.

Since most dairy products are manufactured by companies operating in more than one area, prices paid to producers in different areas will not differ consistently and for a long period by much more than the difference in the processing costs in the two areas and the costs of transporting the product from the lower-priced to the higher-priced region. If the price in any area were consistently higher than this, an incentive would exist for the processing company to discontinue its local operation, expand production in the lower-priced area, and ship the finished products into the higher-priced region. The fact that product prices and producer prices tend to be closely related in different areas has been borne out by previous empirical studies.

These two criteria—(1) that producer prices should be related to product values and (2) that producer prices among regions should be consistent—suggest two possible formulas which may be useful as guides in pricing manufacturing milk. The first formula will be called a "net value" formula and the second a "competitive price" formula. The net value formula is based on the premise that the price paid for milk by any plant over a period of time can be no higher than the f.o.b. plant value of the products manu-

factured from the milk less the direct costs of processing plus a minimum allowance for return on investment necessary to enable the plant to continue in operation. The competitive price formula, on the other hand, is based on the belief that the price paid to producers in a given area (such as California) will, over the long run, tend to be consistent with prices which prevail in alternative source supplies. Calculations for both of these formulas have been carried out to demonstrate how they would have operated in the past in comparison with actual prices paid.

The discussion of partial net margins has shown that indexes of relative profitability in the manufacture of alternative types of dairy products usually vary with the products manufactured. It is to be expected, therefore, that variations in net value computations also will differ in accordance with the products for which the value computations are made. To illustrate this point, two net value computations have been made—one based on butter and nonfat dry milk solids, the other on an evaporated milk operation.[18] These net value computations are given in tables 24 and 25, where they are also compared with the actual cost of raw milk and the differentials calculated.

In figure 17, the results of the net value calculations for a butter and nonfat solids operation are compared with the prices actually paid, by months, from January, 1950, through August, 1961. Both the actual prices paid for raw milk and the net value calculations were based on the average fat test of all milk available for manufacture in California during this period. In other words, unlike some of the other comparisons made in this study, these are based on a varying, rather than a standardized, fat test. This, in part, explains the rather high degree of variability from month to month that is demonstrated in this chart.

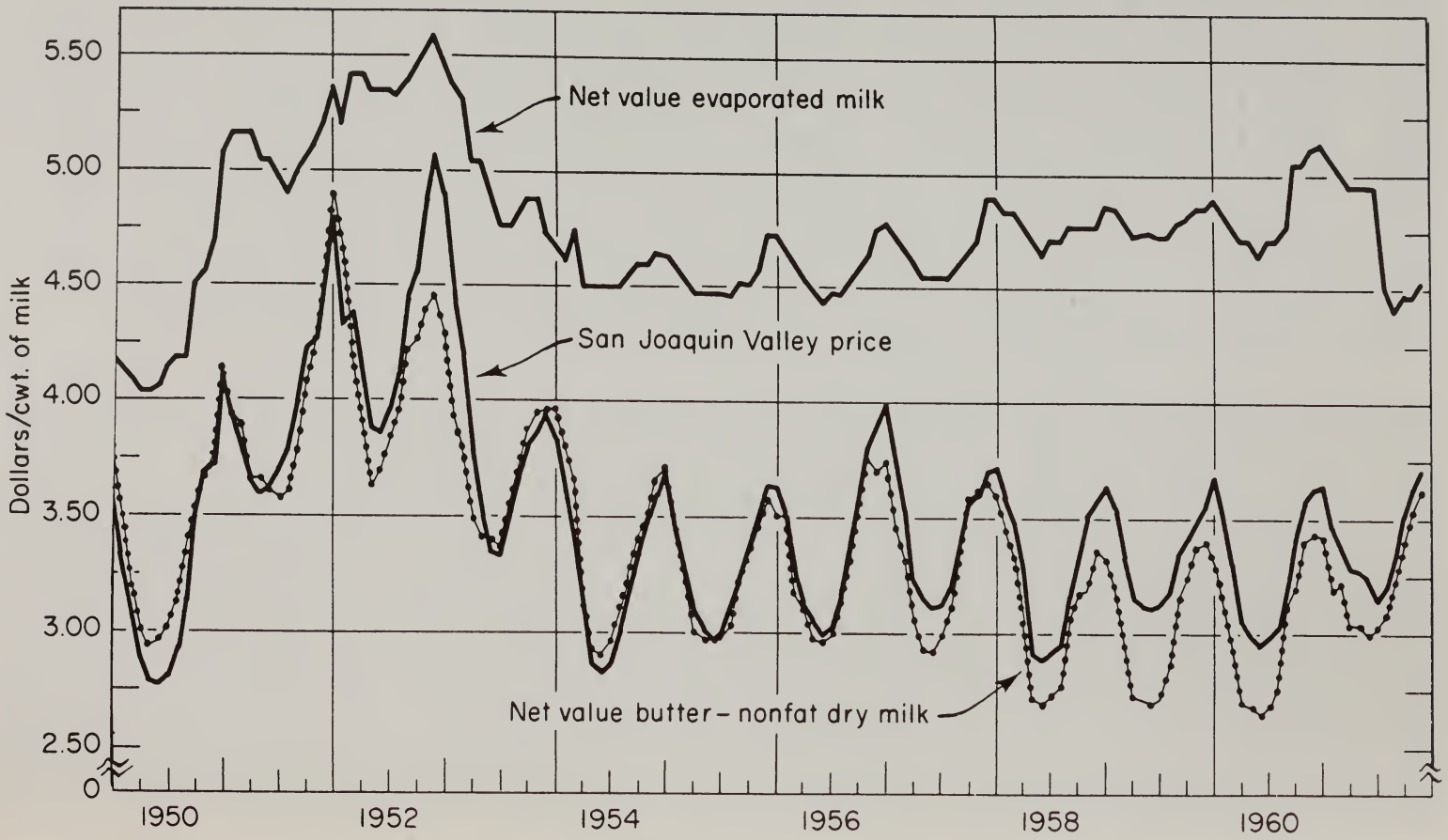
With few exceptions—notably, during most of 1950, the latter half of 1953, and 1954—prices actually paid by San Joaquin Valley condenseries exceeded the net value computations for this milk when used in a butter-nonfat dry milk solids operation. For the entire period the amount by which the prices paid exceeded these formula calculations averaged 11.3 cents per hundredweight. The range of these differential amounts (the amount by which the prices paid exceeded the net value of milk in a butter-powder operation) ran from a high of 62 cents in January, 1953, to a low of –32 cents per hundredweight during the month of February, 1952.

This would mean that if the California manufacturing milk price had been "pegged" to the net value of milk when used in a butter-powder operation during the entire period from 1950 through 1961, California milk producers would have received an average of 11.3 cents per hundredweight less than they actually realized. The diagram further demonstrates that this discrepancy between actual prices and this type of formula price has been greatest in recent years. In 1958, the average amount by which the actual price exceeded formula prices amounted to 18.5 cents per hundredweight; in 1959 it amounted to 30.5 cents per hundredweight; in 1960 the differential was 28.1 cents per hundredweight; and in 1961 the difference amounted to 17.8 cents per hundred pounds. The average differential for the entire period, 1958 through 1961, amounted to 23.7 cents per hundred pounds of milk.

A similar comparison of actual prices with formula prices based on an evapo-

[18] The net value computations were determined as follows:
Gross value = current product prices per unit of product multiplied by product yield per hundredweight of whole milk.
Net value = gross value less processing costs.
In all instances, the prices, yields, and cost estimates were the same as those used in the prior discussion of partial net margins.

FIGURE 17. A COMPARISON OF ACTUAL SAN JOAQUIN VALLEY MILK PRICES WITH NET VALUE SERIES FOR BUTTER-NONFAT DRY MILK AND EVAPORATED MILK, BY MONTHS, 1950–1961



rated milk operation shows quite a different situation. As also shown in figure 17, the net value of milk used for evaporated milk exceeded the prices paid by San Joaquin Valley condenseries in all months during the period 1950 through 1961. The average amount of this differential for the entire period amounted to about $1.23 per hundredweight. The greatest discrepancy between these actual and calculated prices occurred in May, 1958, when the net value of milk for the manufacture of evaporated milk exceeded the raw product cost of that milk by $1.76 per hundred pounds. The point at which this differential became the lowest occurred in December, 1952, when the net value of such milk exceeded the raw product cost by 47 cents per hundredweight.

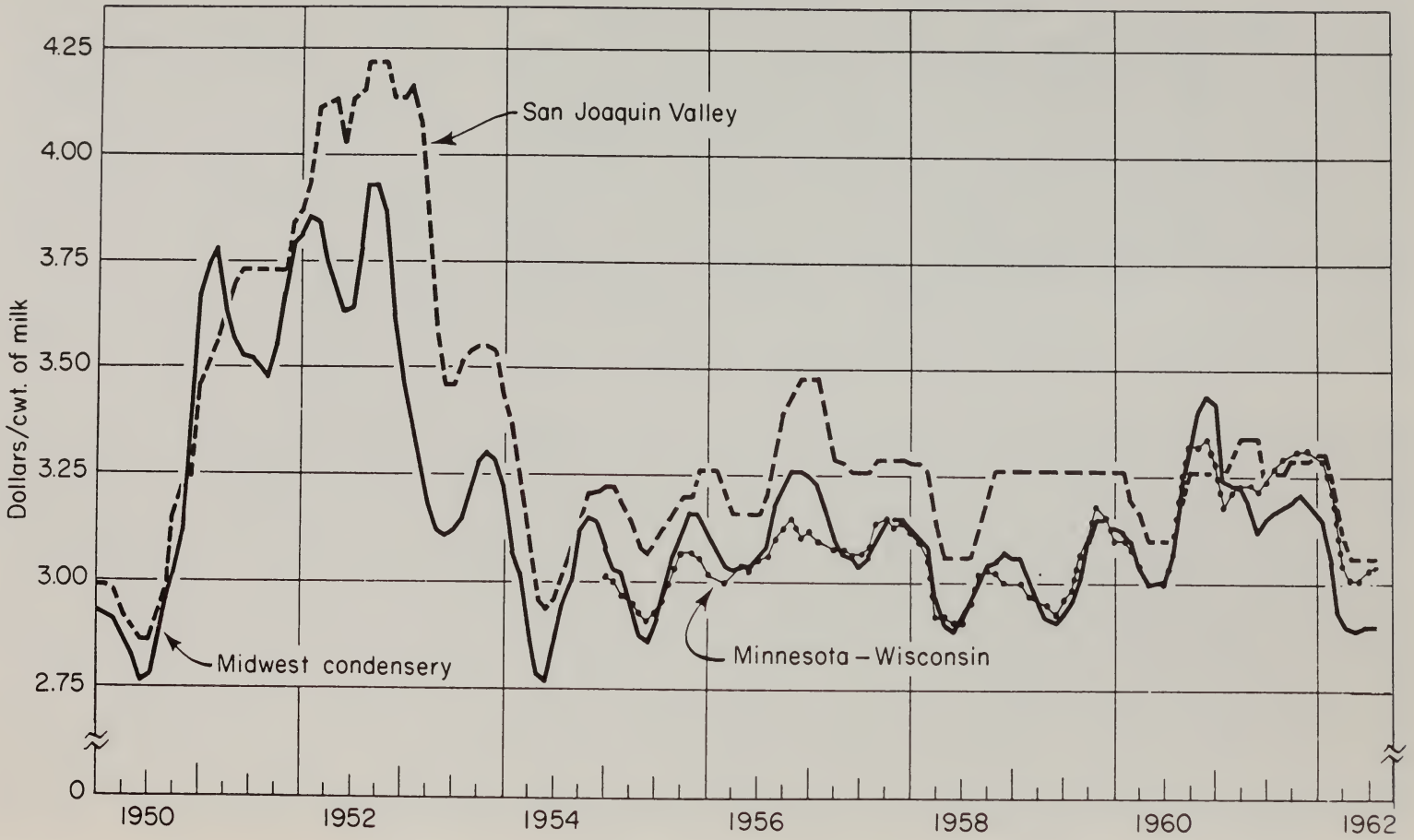
As mentioned, the production of evaporated milk has tended to provide processors with a relatively greater margin than the production of more concentrated products such as butter, cheese, and other storable products. If California producers had been paid on the basis of the net value of milk when used for evaporated milk during the period 1950 through 1961, they would, in all periods, have received substantially greater returns than actually realized. However, the production trend of evaporated milk in California has been downward—approximately 212 million pounds in 1961 as compared with nearly 313 million pounds in 1950, a decrease of approximately 32 per cent. The production of evaporated milk in 1961 accounted for only about 13 per cent of the total amount of milk available for manufacture. That is why it is highly unlikely that the manufactured dairy product industry could have supported producer prices as high as those indicated by their net value in an evaporated milk operation during this period.

The "competitive price" criterion compares prices received by California producers for milk for manufacture with those reported paid to producers in the Midwest when both sets of prices have been adjusted to comparable levels of milkfat. These representative price series have already been compared in an earlier section, but the subject is given further consideration here because it has been suggested that the Bureau of Milk Stabilization abandon the use of the "San Joaquin Valley condensery prices" as a basis of establishing the level of the Class III Grade A milk price and substitute one of the Midwest price series as an indicator of the value of California produced supplies. This argument is supported by the decline in both the number of plants producing evaporated milk and the total quantity of evaporated milk produced in recent years. Some believe, therefore, that a price series based on the operation of San Joaquin Valley condenseries has become less precise as a measure of milk values. Without considering the merits of this argument, the effect of such a change is here indicated.

A comparison of the level and movements of the California price series with those of the Midwest condensery prices is shown in figure 18. As explained earlier, the California series has been adjusted to the 3.5 per cent milkfat level of the Midwest series by the application of the appropriate butterfat differentials. No further adjustment has been made to allow for transportation cost of the finished products.

As expected, these data show a considerable similarity in their patterns of movement. On the average, from January, 1950, through August, 1962, the prices paid California producers exceeded those of the midwestern condenseries by approximately 17 cents per hundredweight for milk of this fat test. The amount of the differential between the two price series varied substantially during those years, starting at relatively low levels of about 5 cents per hundredweight during 1950 and 1951 and widening during the next two years until it reached an annual average level of 46 cents per hundred pounds during 1953. The highest

FIGURE 18. A COMPARISON OF ACTUAL SAN JOAQUIN VALLEY MILK PRICES WITH THE MIDWEST CONDENSERY PRICE AND THE MINNESOTA–WISCONSIN MANUFACTURING MILK PRICE, BY MONTHS, 1950–1961



monthly differential of the entire period was 80 cents, in March, 1953. During 1954 through 1956 the annual differential leveled off at about 14 cents, increasing slightly between 1957 and 1959. The Midwest prices exceeded California prices for a few months late in 1960, but early in 1962 this differential returned to its average for the entire period of about 17 cents.

A similar comparison, with substantially the same results, was made with the more recently developed Minnesota-Wisconsin price series. This is also presented in figure 18. The major difference was observed in recent years when the average differential between these two sets of prices has decreased. For the entire period for which data on this Midwest price series have been available, the average differential of California prices over Midwest prices was about 14 cents per hundredweight for milk of 3.5 per cent fat test. The widest annual average differential occurred in 1959 at a level of nearly 24 cents. Monthly differentials, however, became negative in the latter part of 1960 (the largest negative differential was 8 cents in December). These monthly differentials again became negative, by lesser amounts, during the last half of 1961. In the first eight months of 1962, California prices have exceeded Midwest prices at an average of slightly more than 3 cents per hundredweight.

On the basis of these data, it can be concluded that producers would have received less than their actual income if either of these two Midwest price series had been used as the criterion for pricing. The general pattern of conformance of these alternative price series suggests, that similar factors affect the supply and demand for milk for manufacturing purposes in the two producing areas. To the extent that either of the Midwest price series can be used to judge the performance of the California market in reflecting changes in these price determinants, there is evidence that the market in California has been quite responsive. However, there seems to be little basis for concluding that any fixed relationship has existed over time between the price differentials in these areas.

Appendix

TABLE 5. COSTS OF PROCESSING 100 POUNDS OF MILK INTO CREAM AND NONFAT DRY MILK, BY MONTHS, CALIFORNIA, 1950–1961*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1950						
JANUARY	.175	.089	.021	.093	.011	.061	.450
FEBRUARY	.175	.089	.021	.093	.011	.061	.450
MARCH	.175	.089	.021	.093	.011	.061	.450
APRIL	.175	.088	.022	.094	.011	.062	.452
MAY	.175	.089	.022	.095	.011	.062	.454
JUNE	.175	.090	.022	.097	.012	.062	.458
JULY	.175	.091	.023	.097	.012	.063	.461
AUGUST	.175	.091	.023	.099	.012	.064	.464
SEPTEMBER	.175	.092	.023	.101	.012	.065	.468
OCTOBER	.175	.092	.023	.103	.012	.066	.471
NOVEMBER	.175	.093	.023	.105	.012	.067	.475
DECEMBER	.175	.092	.023	.108	.012	.069	.479
	1951						
JANUARY	.179	.093	.023	.110	.012	.070	.487
FEBRUARY	.179	.094	.023	.110	.012	.070	.488
MARCH	.179	.094	.023	.110	.012	.070	.488
APRIL	.179	.094	.023	.110	.012	.070	.488
MAY	.179	.093	.023	.110	.012	.070	.487
JUNE	.179	.093	.023	.109	.012	.070	.486
JULY	.179	.094	.023	109	.012	.071	.488
AUGUST	.179	.093	.023	.109	.012	.072	.488
SEPTEMBER	.179	.094	.023	.109	.012	.073	.490
OCTOBER	.179	.094	.023	.109	.012	.073	.490
NOVEMBER	.179	.094	.023	.109	.012	.073	.490
DECEMBER	.179	.094	.023	.109	.012	.073	.490
	1952						
JANUARY	.188	.094	.023	.109	.012	.073	.499
FEBRUARY	.188	.094	.023	.109	.012	.074	.500
MARCH	.188	.094	.023	.109	.012	.074	.500
APRIL	.188	.093	.025	.109	.013	.074	.502
MAY	.188	.093	.025	.108	.013	.074	.501
JUNE	.188	.093	.025	.108	.013	.074	.501
JULY	.188	.093	.025	.108	.013	.074	.501
AUGUST	.188	.093	.025	.110	.013	.074	.503
SEPTEMBER	.188	.093	.025	.111	.013	.074	.504
OCTOBER	.188	.094	.025	.110	.013	.075	.505
NOVEMBER	.188	.094	.025	.110	.013	.075	.505
DECEMBER	.188	.094	.025	.110	.013	.075	.505

See p. 56 for footnotes.

Continued on next page

Table 5—Cream and Nonfat Dry Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1953						
JANUARY	.195	.095	.025	.110	.013	.075	.513
FEBRUARY	.195	.095	.025	.111	.013	.075	.514
MARCH	.195	.095	.025	.112	.013	.075	.515
APRIL	.195	.094	.024	.111	.013	.075	.512
MAY	.195	.094	.024	.112	.013	.075	.513
JUNE	.195	.095	.024	.113	.013	.074	.514
JULY	.195	.098	.026	.115	.014	.075	.523
AUGUST	.195	.097	.026	.115	.014	.075	.522
SEPTEMBER	.195	.097	.026	.114	.013	.076	.521
OCTOBER	.195	.098	.026	.114	.014	.076	.523
NOVEMBER	.195	.098	.026	.114	.014	.076	.523
DECEMBER	.195	.098	.026	.113	.014	.076	.522
	1954						
JANUARY	.200	.097	.026	.113	.014	.076	.526
FEBRUARY	.200	.097	.026	.112	.014	.076	.525
MARCH	.200	.096	.026	.112	.014	.076	.524
APRIL	.200	.095	.027	.113	.014	.076	.525
MAY	.200	.095	.027	.113	.014	.076	.525
JUNE	.200	.095	.027	.113	.014	.076	.525
JULY	.200	.093	.028	.114	.014	.076	.525
AUGUST	.200	.094	.028	.114	.014	.076	.526
SEPTEMBER	.200	.094	.028	.115	.014	.076	.527
OCTOBER	.200	.094	.029	.115	.014	.076	.528
NOVEMBER	.200	.094	.029	.115	.014	.076	.528
DECEMBER	.200	.094	.029	.115	.014	.076	.528
	1955						
JANUARY	.208	.095	.029	.116	.015	.076	.539
FEBRUARY	.208	.095	.029	.117	.015	.076	.540
MARCH	.208	.095	.029	.117	.015	.076	.540
APRIL	.208	.094	.030	.118	.015	.076	.541
MAY	.208	.094	.030	.118	.015	.077	.542
JUNE	.208	.094	.030	.118	.015	.077	.542
JULY	.208	.093	.030	.122	.015	.07[illegible]	.546
AUGUST	.208	.094	.030	.124	.015	.078	.549
SEPTEMBER	.208	.095	.030	.126	.015	.078	.552
OCTOBER	.208	.095	.030	.127	.015	.078	.553
NOVEMBER	.208	.095	.030	.127	.015	.079	.554
DECEMBER	.208	.096	.030	.128	.015	.079	.556

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Table 5—Cream and Nonfat Dry Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1956						
JANUARY	.213	.097	.030	.129	.016	.080	.565
FEBRUARY	.213	.098	.030	.129	.016	.081	.567
MARCH	.213	.097	.030	.130	.016	.081	.567
APRIL	.213	.097	.032	.131	.016	.081	.570
MAY	.213	.098	.032	.131	.016	.081	.571
JUNE	.213	.097	.032	.130	.016	.082	.570
JULY	.213	.097	.032	.129	.016	.083	.570
AUGUST	.213	.097	.032	.134	.016	.083	.575
SEPTEMBER	.213	.098	.032	.135	.016	.083	.577
OCTOBER	.213	.098	.032	.135	.016	.083	.577
NOVEMBER	.213	.098	.032	.135	.016	.083	.577
DECEMBER	.213	.100	.032	.135	.016	.083	.579
	1957						
JANUARY	.220	.102	.032	.135	.016	.083	.588
FEBRUARY	.220	.105	.032	.135	.016	.083	.591
MARCH	.220	.105	.032	.134	.016	.084	.591
APRIL	.220	.105	.033	.133	.017	.084	.592
MAY	.220	.104	.033	.133	.017	.085	.592
JUNE	.220	.103	.033	.134	.017	.085	.592
JULY	.220	.102	.034	.135	.017	.085	.593
AUGUST	.220	.102	.034	.136	.017	.085	.594
SEPTEMBER	.220	.102	.034	.135	.017	.085	.593
OCTOBER	.220	.102	.033	.134	.017	.085	.591
NOVEMBER	.220	.102	.033	.134	.017	.086	.592
DECEMBER	.220	.102	.033	.134	.017	.085	.591
	1958						
JANUARY	.225	.102	.033	.133	.017	.085	.595
FEBRUARY	.225	.100	.033	.133	.017	.085	.593
MARCH	.225	.099	.033	.133	.017	.085	.592
APRIL	.225	.097	.035	.132	.017	.085	.591
MAY	.225	.097	.035	.132	.017	.085	.591
JUNE	.225	.097	.035	.132	.017	.085	.591
JULY	.225	.098	.036	.132	.018	.085	.594
AUGUST	.225	.100	.036	.134	.018	.085	.598
SEPTEMBER	.225	.100	.036	.135	.018	.085	.599
OCTOBER	.225	.099	.036	.135	.018	.085	.598
NOVEMBER	.225	.099	.036	.136	.018	.085	.599
DECEMBER	.225	.099	.036	.136	.018	.085	.599

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Table 5—Cream and Nonfat Dry Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1959						
JANUARY	.250	.100	.036	.136	.018	.085	.625
FEBRUARY	.250	.101	.036	.136	.018	.085	.626
MARCH	.250	.101	.036	.137	.018	.085	.627
APRIL	.250	.100	.036	.136	.018	.086	.626
MAY	.250	.100	.036	.136	.018	.086	.626
JUNE	.250	.098	.036	.136	.018	.086	.624
JULY	.250	.098	.038	.136	.018	.086	.626
AUGUST	.250	.099	.038	.136	.018	.086	.627
SEPTEMBER	.250	.098	.038	.137	.018	.086	.627
OCTOBER	.250	.098	.037	.137	.018	.086	.626
NOVEMBER	.250	.098	.037	.139	.018	.086	.628
DECEMBER	.250	.098	.037	.138	.018	.086	.627
	1960						
JANUARY	.273	.098	.037	.138	.018	.086	.650
FEBRUARY	.273	.098	.037	.138	.018	.086	.650
MARCH	.273	.099	.037	.137	.018	.086	.650
APRIL	.273	.099	.039	.137	.019	.087	.654
MAY	.273	.097	.039	.137	.019	.087	.652
JUNE	.273	.099	.039	.137	.019	.087	.654
JULY	.273	.100	.039	.136	.019	.087	.654
AUGUST	.273	.101	.039	.137	.019	.087	.656
SEPTEMBER	.273	.102	.039	.136	.019	.087	.656
OCTOBER	.273	.102	.039	.136	.019	.087	.656
NOVEMBER	.273	.102	.039	.135	.019	.087	.655
DECEMBER	.273	.102	.039	.135	.019	.087	.655
	1961						
JANUARY	.294	.103	.039	.135	.019	.087	.677
FEBRUARY	.294	.103	.039	.135	.019	.087	.677
MARCH	.294	.103	.039	.135	.019	.087	.677
APRIL	.294	.101	.041	.136	.019	.087	.678
MAY	.294	.100	.041	.136	.019	.087	.677
JUNE	.294	.100	.041	.136	.019	.087	.677
JULY	.294	.101	.040	.136	.019	.087	.677
AUGUST	.294	.100	.040	.137	.019	.087	.677
SEPTEMBER	.294	.100	.040	.137	.019	.087	.677
OCTOBER	.294	.099	.040	.136	.019	.087	.675
NOVEMBER	.294	.100	.040	.135	.019	.087	.675
DECEMBER	.294	.101	.040	.136	.019	.087	.677

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Table 5—Cream and Nonfat Dry Milk, *concluded*

*Calculation of constants used to adjust 1950-1961 cost figures for cream-nonfat dry milk:

Labor = $\frac{\text{Annual average labor costs, 1961}}{\text{Annual average labor index, 1961}} = \frac{.294}{164.3} = .1790$

Building = $\frac{\text{Annual average building costs, 1961}}{\text{Annual average index of construction and building costs, 1961}} = \frac{.040}{906} = 0.0044$

Equipment = $\frac{\text{Annual average equipment costs, 1961}}{\text{Annual average index of metal and metal products, 1961}} = \frac{.136}{152.9} = 0.0889$

Utilities = $\frac{\text{Annual average utility costs, 1961}}{\text{Annual average index of fuel, power, and lighting materials, 1961}} = \frac{.101}{115.0} = 0.0878$

Consumable supplies = $\frac{\text{Annual average consumable supplies costs, 1961}}{\text{Annual average of combined indexes for building costs, metal and metal products, and fuel, power, and lighting materials, 1961}} = \frac{.019}{391.3} = 0.0049$

Packaging supplies = $\frac{\text{Annual average packaging supplies costs, 1961}}{\text{Annual average index of wholesale prices, 1961}} = \frac{.087}{145.6} = .0597$

†Consumable supply costs include laboratory supplies, office supplies, cleaning supplies, and liability insurance.

Table 6. Costs of Processing 100 Pounds of Milk Into Cream and Condensed Skim Milk, by Months, California, 1950–1961*

Month	Labor	Utilities	Building	Equipment	Consumable† supply	Packaging supply‡	Total processing cost
	dollars per hundredweight						
	1950						
January	.143	.060	.017	.076	.011		.307
February	.143	.060	.017	.076	.011		.307
March	.143	.060	.017	.076	.011		.307
April	.143	.060	.017	.076	.011		.307
May	.143	.060	.017	.077	.011		.308
June	.143	.061	.017	.079	.012		.312
July	.143	.061	.018	.079	.012		.313
August	.143	.061	.018	.080	.012		.314
September	.143	.062	.018	.082	.012		.317
October	.143	.062	.018	.084	.012		.319
November	.143	.062	.018	.085	.012		.320
December	.143	.062	.018	.088	.012		.323

See p. 60 for footnotes.

Continued on next page

Table 6—Cream and Condensed Skim Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY‡	TOTAL PROCESSING COST
	dollars per hundredweight						
	1951						
JANUARY	.146	.063	.018	.090	.012		.329
FEBRUARY	.146	.063	.018	.090	.012		.329
MARCH	.146	.063	.018	.089	.012		.328
APRIL	.146	.063	.019	.090	.012		.330
MAY	.146	.063	.019	.089	.012		.329
JUNE	.146	.063	.019	.089	.012		.329
JULY	.146	.063	.018	.089	.012		.328
AUGUST	.146	.063	.018	.089	.012		.328
SEPTEMBER	.146	.063	.018	.089	.012		.328
OCTOBER	.146	.063	.018	.089	.012		.328
NOVEMBER	.146	.063	.018	.089	.012		.328
DECEMBER	.146	.063	.018	.089	.012		.328
	1952						
JANUARY	.154	.063	.019	.089	.012		.337
FEBRUARY	.154	.063	.019	.089	.012		.337
MARCH	.154	.063	.019	.089	.012		.337
APRIL	.154	.063	.020	.089	.013		.339
MAY	.154	.063	.020	.088	.013		.338
JUNE	.154	.063	.020	.088	.013		.338
JULY	.154	.063	.020	.088	.013		.338
AUGUST	.154	.063	.020	.090	.013		.340
SEPTEMBER	.154	.063	.020	.090	.013		.340
OCTOBER	.154	.063	.020	.090	.013		.340
NOVEMBER	.154	.063	.020	.090	.013		.340
DECEMBER	.154	.063	.020	.090	.013		.340
	1953						
JANUARY	.159	.064	.019	.090	.013		.345
FEBRUARY	.159	.064	.019	.090	.013		.345
MARCH	.159	.064	.019	.091	.013		.346
APRIL	.159	.063	.019	.091	.013		.345
MAY	.159	.063	.019	.091	.013		.345
JUNE	.159	.064	.019	.092	.013		.347
JULY	.159	.066	.021	.094	.014		.354
AUGUST	.159	.066	.021	.094	.014		.354
SEPTEMBER	.159	.066	.021	.093	.013		.352
OCTOBER	.159	.066	.021	.093	.014		.353
NOVEMBER	.159	.066	.021	.093	.014		.353
DECEMBER	.159	.066	.021	.093	.014		.353

Continued on next page

Table 6—Cream and Condensed Skim Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1954						
JANUARY	.163	.065	.021	.092	.014		.355
FEBRUARY	.163	.065	.021	.092	.014		.355
MARCH	.163	.065	.021	.092	.014		.355
APRIL	.163	.064	.022	.092	.014		.355
MAY	.163	.064	.022	.092	.014		.355
JUNE	.163	.064	.022	.092	.014		.355
JULY	.163	.063	.022	.093	.014		.355
AUGUST	.163	.063	.022	.093	.014		.355
SEPTEMBER	.163	.063	.022	.094	.014		.356
OCTOBER	.163	.063	.023	.094	.014		.357
NOVEMBER	.163	.063	.023	.094	.014		.357
DECEMBER	.163	.063	.023	.094	.014		.357
	1955						
JANUARY	.170	.064	.023	.094	.015		.366
FEBRUARY	.170	.064	.023	.095	.015		.367
MARCH	.170	.064	.023	.096	.015		.368
APRIL	.170	.063	.024	.096	.015		.368
MAY	.170	.063	.024	.096	.015		.368
JUNE	.170	.063	.024	.096	.015		.368
JULY	.170	.063	.024	.099	.015		.371
AUGUST	.170	.063	.024	.101	.015		.373
SEPTEMBER	.170	.064	.024	.103	.015		.376
OCTOBER	.170	.064	.024	.103	.015		.376
NOVEMBER	.170	.064	.024	.104	.015		.377
DECEMBER	.170	.065	.024	.104	.015		.378
	1956						
JANUARY	.174	.066	.024	.105	.016		.385
FEBRUARY	.174	.066	.024	.105	.016		.385
MARCH	.174	.066	.024	.106	.016		.386
APRIL	.174	.065	.025	.107	.016		.387
MAY	.174	.065	.025	.107	.016		.387
JUNE	.174	.065	.025	.106	.016		.386
JULY	.174	.065	.025	.105	.016		.385
AUGUST	.174	.066	.025	.109	.016		.390
SEPTEMBER	.174	.066	.025	.110	.016		.391
OCTOBER	.174	.066	.025	.110	.016		.391
NOVEMBER	.174	.066	.025	.110	.016		.391
DECEMBER	.174	.067	.025	.111	.016		.393

Continued on next page

Table 6—Cream and Condensed Skim Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY‡	TOTAL PROCESSING COST
	dollars per hundredweight						
	1957						
JANUARY	.180	.069	.025	.110	.016		.400
FEBRUARY	.180	.071	.025	.110	.016		.402
MARCH	.180	.070	.025	.110	.016		.401
APRIL	.180	.071	.027	.109	.017		.404
MAY	.180	.070	.027	.109	.017		.403
JUNE	.180	.069	.027	.109	.017		.402
JULY	.180	.069	.027	.111	.017		.404
AUGUST	.180	.069	.027	.111	.017		.404
SEPTEMBER	.180	.069	.027	.110	.017		.403
OCTOBER	.180	.068	.027	.109	.017		.401
NOVEMBER	.180	.068	.027	.109	.017		.401
DECEMBER	.180	.069	.027	.109	.017		.402
	1958						
JANUARY	.184	.069	.027	.109	.017		.406
FEBRUARY	.184	.067	.027	.109	.017		.404
MARCH	.184	.066	.027	.109	.017		.403
APRIL	.184	.066	.028	.108	.017		.403
MAY	.184	.065	.028	.108	.017		.402
JUNE	.184	.065	.028	.108	.017		.402
JULY	.184	.066	.029	.108	.018		.405
AUGUST	.184	.067	.029	.109	.018		.407
SEPTEMBER	.184	.067	.029	.110	.018		.408
OCTOBER	.184	.067	.028	.110	.018		.407
NOVEMBER	.184	.067	.028	.111	.018		.408
DECEMBER	.184	.067	.028	.111	.018		.408
	1959						
JANUARY	.204	.067	.029	.111	.018		.429
FEBRUARY	.204	.068	.029	.111	.018		.430
MARCH	.204	.068	.029	.112	.018		.431
APRIL	.204	.067	.029	.111	.018		.429
MAY	.204	.067	.029	.111	.018		.429
JUNE	.204	.066	.029	.111	.018		.428
JULY	.204	.066	.030	.111	.018		.429
AUGUST	.204	.066	.030	.111	.018		.429
SEPTEMBER	.204	.066	.030	.112	.018		.430
OCTOBER	.204	.066	.030	.112	.018		.430
NOVEMBER	.204	.066	.030	.113	.018		.431
DECEMBER	.204	.066	.030	.113	.018		.431

Continued on next page

Table 6—Cream and Condensed Skim Milk, *concluded*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY ‡	TOTAL PROCESSING COST
	dollars per hundredweight						
	1960						
JANUARY	.223	.066	.030	.113	.018		.450
FEBRUARY	.223	.066	.030	.113	.018		.450
MARCH	.223	.066	.030	.112	.018		.449
APRIL	.223	.066	.031	.112	.019		.451
MAY	.223	.065	.031	.112	.019		.450
JUNE	.223	.066	.031	.112	.019		.451
JULY	.223	.067	.031	.111	.019		.451
AUGUST	.223	.068	.031	.112	.019		.453
SEPTEMBER	.223	.069	.031	.111	.019		.453
OCTOBER	.223	.069	.031	.111	.019		.453
NOVEMBER	.223	.069	.031	.111	.019		.453
DECEMBER	.223	.069	.031	.110	.019		.452
	1961						
JANUARY	.240	.069	.031	.110	.019		.469
FEBRUARY	.240	.070	.031	.111	.019		.471
MARCH	.240	.069	.031	.111	.019		.470
APRIL	.240	.068	.032	.111	.019		.470
MAY	.240	.067	.032	.111	.019		.469
JUNE	.240	.068	.032	.111	.019		.470
JULY	.240	.068	.032	.111	.019		.470
AUGUST	.240	.068	.032	.112	.019		.471
SEPTEMBER	.240	.067	.032	.112	.019		.470
OCTOBER	.240	.067	.032	.111	.019		.469
NOVEMBER	.240	.067	.032	.111	.019		.469
DECEMBER	.240	.068	.032	.111	.019		.470

*Calculation of constants used to adjust 1950-1961 cost figures for cream-condensed skim milk:

Labor $= \frac{\text{Annual average labor costs, 1961}}{\text{Annual average labor index, 1961}} = \frac{.240}{164.3} = .1461$

Building $= \frac{\text{Annual average building costs, 1961}}{\text{Annual average index of construction and building costs, 1961}} = \frac{.032}{906} = .0035$

Equipment $= \frac{\text{Annual average equipment costs, 1961}}{\text{Annual average index of metal and metal products, 1961}} = \frac{.111}{152.9} = .0726$

Utilities $= \frac{\text{Annual average utility costs, 1961}}{\text{Annual average index of fuel, power, and lighting materials, 1961}} = \frac{.068}{115.0} = .0591$

Consumable supplies $= \frac{\text{Annual average consumable supplies costs, 1961}}{\text{Annual average of combined indexes for building costs, metal and metal products, and fuel, power, and lighting materials, 1961}} = \frac{.019}{391.3} = .0049$

† Consumable supply costs include laboratory supplies, office supplies, cleaning supplies, and liability insurance.

‡ Blanks mean no packaging costs incurred in this plant.

Table 7. Costs of Processing 100 Pounds of Milk Into Cream and Cottage Cheese, by Months, California, 1950–1961*

Month	Labor	Utilities	Building	Equipment	Consumable† supply	Packaging supply ‡	Total processing cost
	dollars per hundredweight						
	1950						
January	.228	.026	.014	.088	.011		.367
February	.228	.026	.014	.088	.011		.367
March	.228	.026	.014	.088	.011		.367
April	.228	.026	.014	.089	.011		.368
May	.228	.026	.014	.090	.011		.369
June	.228	.026	.014	.092	.012		.372
July	.228	.027	.015	.092	.012		.374
August	.228	.027	.015	.093	.012		.375
September	.228	.027	.015	.096	.012		.378
October	.228	.027	.015	.098	.012		.380
November	.228	.027	.015	.099	.012		.381
December	.228	.027	.015	.103	.012		.385
	1951						
January	.232	.027	.015	.105	.012		.391
February	.232	.028	.015	.104	.012		.391
March	.232	.028	.015	.104	.012		.391
April	.232	.027	.015	.104	.012		.390
May	.232	.027	.015	.104	.012		.390
June	.232	.027	.015	.103	.012		.389
July	.232	.027	.015	.103	.012		.389
August	.232	.027	.015	.103	.012		.389
September	.232	.027	.015	.103	.012		.389
October	.232	.027	.015	.103	.012		.389
November	.232	.027	.015	.103	.012		.389
December	.232	.028	.015	.103	.012		.390
	1952						
January	.244	.028	.015	.103	.012		.402
February	.244	.028	.015	.103	.012		.402
March	.244	.028	.015	.103	.012		.402
April	.244	.027	.016	.103	.013		.403
May	.244	.027	.016	.103	.013		.403
June	.244	.027	.016	.102	.013		.402
July	.244	.027	.017	.103	.013		.404
August	.244	.027	.017	.105	.013		.406
September	.244	.027	.017	.105	.013		.406
October	.244	.027	.016	.105	.013		.405
November	.244	.027	.016	.104	.013		.404
December	.244	.028	.016	.105	.013		.406

See p. 65 for footnotes.

Continued on next page

Table 7—Cream and Cottage Cheese, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY‡	TOTAL PROCESSING COST
	dollars per hundredweight						
	1953						
JANUARY	.253	.028	.016	.105	.013		.415
FEBRUARY	.253	.028	.016	.105	.013		.415
MARCH	.253	.028	.016	.106	.013		.416
APRIL	.253	.028	.016	.105	.013		.415
MAY	.253	.028	.016	.106	.013		.416
JUNE	.253	.028	.016	.107	.013		.417
JULY	.253	.029	.017	.109	.014		.422
AUGUST	.253	.029	.017	.109	.014		.422
SEPTEMBER	.253	.029	.017	.108	.013		.420
OCTOBER	.253	.029	.017	.108	.014		.421
NOVEMBER	.253	.029	.017	.108	.014		.421
DECEMBER	.253	.029	.017	.107	.014		.420
	1954						
JANUARY	.260	.028	.017	.107	.014		.426
FEBRUARY	.260	.028	.017	.106	.014		.425
MARCH	.260	.028	.017	.106	.014		.425
APRIL	.260	.028	.018	.107	.014		.427
MAY	.260	.028	.018	.107	.014		.427
JUNE	.260	.028	.018	.107	.014		.427
JULY	.260	.027	.018	.108	.014		.427
AUGUST	.260	.027	.018	.108	.014		.427
SEPTEMBER	.260	.027	.018	.109	.014		.428
OCTOBER	.260	.027	.019	.109	.014		.429
NOVEMBER	.260	.028	.019	.110	.014		.431
DECEMBER	.260	.028	.019	.109	.014		.430
	1955						
JANUARY	.270	.028	.019	.110	.015		.442
FEBRUARY	.270	.028	.019	.111	.015		.443
MARCH	.270	.028	.019	.111	.015		.443
APRIL	.270	.028	.020	.112	.015		.445
MAY	.270	.027	.020	.112	.015		.444
JUNE	.270	.027	.020	.112	.015		.444
JULY	.270	.027	.020	.115	.015		.447
AUGUST	.270	.028	.020	.118	.015		.451
SEPTEMBER	.270	.028	.020	.120	.015		.453
OCTOBER	.270	.028	.020	.120	.015		.453
NOVEMBER	.270	.028	.020	.120	.015		.453
DECEMBER	.270	.028	.020	.121	.015		.454

Continued on next page

Table 7—Cream and Cottage Cheese, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY ‡	TOTAL PROCESSING COST
	dollars per hundredweight						
	1956						
JANUARY	.276	.029	.020	.122	.015		.462
FEBRUARY	.276	.029	.020	.122	.016		.463
MARCH	.276	.029	.020	.123	.016		.464
APRIL	.276	.028	.021	.125	.016		.466
MAY	.276	.028	.021	.124	.016		.465
JUNE	.276	.028	.021	.123	.016		.464
JULY	.276	.028	.021	.122	.016		.463
AUGUST	.276	.029	.021	.127	.016		.469
SEPTEMBER	.276	.029	.021	.128	.016		.470
OCTOBER	.276	.029	.021	.128	.016		.470
NOVEMBER	.276	.029	.021	.128	.016		.470
DECEMBER	.276	.029	.021	.128	.016		.470
	1957						
JANUARY	.285	.030	.021	.128	.016		.480
FEBRUARY	.285	.031	.021	.128	.016		.481
MARCH	.285	.031	.021	.127	.016		.480
APRIL	.285	.031	.022	.127	.017		.482
MAY	.285	.030	.022	.126	.017		.480
JUNE	.285	.030	.022	.127	.017		.481
JULY	.285	.030	.022	.128	.017		.482
AUGUST	.285	.030	.022	.129	.017		.483
SEPTEMBER	.285	.030	.022	.128	.017		.482
OCTOBER	.285	.030	.022	.127	.017		.481
NOVEMBER	.285	.030	.022	.127	.017		.481
DECEMBER	.285	.030	.022	.127	.017		.481
	1958						
JANUARY	.292	.030	.022	.126	.017		.487
FEBRUARY	.292	.029	.022	.127	.017		.487
MARCH	.292	.029	.022	.126	.017		.486
APRIL	.292	.029	.023	.125	.017		.486
MAY	.292	.028	.023	.125	.017		.485
JUNE	.292	.028	.023	.125	.017		.485
JULY	.292	.029	.024	.125	.018		.488
AUGUST	.292	.029	.024	.127	.018		.490
SEPTEMBER	.292	.029	.024	.128	.018		.491
OCTOBER	.292	.029	.024	.128	.018		.491
NOVEMBER	.292	.029	.024	.129	.018		.492
DECEMBER	.292	.029	.024	.129	.018		.492

Continued on next page

Table 7—Cream and Cottage Cheese, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1959						
JANUARY	.325	.029	.024	.129	.018		.525
FEBRUARY	.325	.030	.024	.129	.018		.526
MARCH	.325	.030	.024	.129	.018		.526
APRIL	.325	.029	.024	.129	.018		.525
MAY	.325	.029	.024	.129	.018		.525
JUNE	.325	.029	.024	.129	.018		.525
JULY	.325	.029	.025	.129	.018		.526
AUGUST	.325	.029	.025	.129	.018		.526
SEPTEMBER	.325	.029	.025	.130	.018		.527
OCTOBER	.325	.029	.025	.130	.018		.527
NOVEMBER	.325	.029	.025	.131	.018		.528
DECEMBER	.325	.029	.025	.131	.018		.528
	1960						
JANUARY	.354	.029	.025	.131	.018		.557
FEBRUARY	.354	.029	.025	.131	.018		.557
MARCH	.354	.029	.025	.130	.018		.556
APRIL	.354	.029	.026	.130	.019		.558
MAY	.354	.028	.026	.130	.019		.557
JUNE	.354	.029	.026	.130	.019		.558
JULY	.354	.029	.026	.129	.019		.557
AUGUST	.354	.030	.026	.129	.019		.558
SEPTEMBER	.354	.030	.026	.129	.019		.558
OCTOBER	.354	.030	.025	.129	.019		.557
NOVEMBER	.354	.030	.025	.128	.019		.556
DECEMBER	.354	.030	.025	.128	.019		.556
	1961						
JANUARY	.382	.030	.025	.128	.019		.584
FEBRUARY	.382	.030	.025	.128	.019		.584
MARCH	.382	.030	.025	.128	.019		.584
APRIL	.382	.030	.027	.129	.019		.587
MAY	.382	.029	.027	.129	.019		.586
JUNE	.382	.029	.027	.129	.019		.586
JULY	.382	.029	.027	.129	.019		.586
AUGUST	.382	.029	.027	.129	.019		.586
SEPTEMBER	.382	.029	.027	.130	.019		.587
OCTOBER	.382	.029	.026	.129	.019		.585
NOVEMBER	.382	.029	.026	.128	.019		.584
DECEMBER	.382	.030	.026	.129	.019		.586

Continued on next page

Table 7—Cream and Cottage Cheese, *concluded*

*Calculation of constants used to adjust 1950-1961 cost figures for cream-cottage cheese:

Labor = $\frac{\text{Annual average labor costs, 1961}}{\text{Annual average labor index, 1961}} = \frac{.382}{164.3} = .2323$

Building = $\frac{\text{Annual average building costs, 1961}}{\text{Annual average index of construction and building costs, 1961}} = \frac{.026}{906} = .0029$

Equipment = $\frac{\text{Annual average equipment costs, 1961}}{\text{Annual average index of metal and metal products, 1961}} = \frac{.129}{152.9} = .0843$

Utilities = $\frac{\text{Annual average utility costs, 1961}}{\text{Annual average index of fuel, power, and lighting materials, 1961}} = \frac{.030}{115.0} = .0257$

Consumable supplies = $\frac{\text{Annual average consumable supplies costs, 1961}}{\text{Annual average of combined indexes for building costs, metal and metal products, and fuel, power, and lighting materials, 1961}} = \frac{.019}{391.3} = .0049$

†Consumable supply costs include laboratory supplies, office supplies, cleaning supplies, and liability insurance.

‡Blanks mean no packaging costs incurred in this plant.

Table 8. Costs of Processing 100 Pounds of Milk Into Butter and Nonfat Dry Milk, by Months, California, 1950–1961*

Month	Labor	Utilities	Building	Equipment	Consumable† supply	Packaging supply	Total processing cost
	dollars per hundredweight						
	1950						
January	.198	.089	.022	.092	.011	.071	.483
February	.198	.089	.022	.093	.011	.071	.484
March	.198	.089	.022	.093	.011	.071	.484
April	.198	.088	.022	.093	.011	.071	.483
May	.198	.089	.022	.094	.011	.071	.485
June	.198	.090	.022	.096	.011	.071	.488
July	.198	.091	.023	.096	.011	.072	.491
August	.198	.091	.023	.098	.011	.073	.494
September	.198	.092	.023	.100	.011	.074	.498
October	.198	.092	.023	.103	.011	.076	.503
November	.198	.093	.023	.104	.011	.077	.506
December	.198	.092	.023	.108	.011	.079	.511

See p. 69 for footnotes.

Continued on next page

Table 8—Butter and Nonfat Dry Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1951						
JANUARY	.202	.093	.023	.109	.011	.080	.518
FEBRUARY	.202	.094	.023	.109	.011	.080	.519
MARCH	.202	.094	.023	.109	.011	.080	.519
APRIL	.202	.094	.024	.109	.012	.080	.521
MAY	.202	.093	.024	.109	.012	.080	.520
JUNE	.202	.093	.024	.108	.012	.081	.520
JULY	.202	.094	.024	.108	.012	.081	.521
AUGUST	.202	.093	.024	.108	.012	.082	.521
SEPTEMBER	.202	.094	.024	.108	.012	.083	.523
OCTOBER	.202	.094	.024	.108	.012	.084	.524
NOVEMBER	.202	.094	.024	.108	.012	.084	.524
DECEMBER	.202	.094	.024	.108	.012	.084	.524
	1952						
JANUARY	.212	.094	.024	.108	.012	.084	.534
FEBRUARY	.212	.094	.024	.108	.012	.085	.535
MARCH	.212	.094	.024	.108	.012	.085	.535
APRIL	.212	.093	.025	.108	.012	.085	.535
MAY	.212	.093	.025	.108	.012	.085	.535
JUNE	.212	.093	.025	.107	.012	.085	.534
JULY	.212	.093	.026	.108	.012	.085	.536
AUGUST	.212	.093	.026	.110	.012	.085	.538
SEPTEMBER	.212	.093	.026	.110	.012	.085	.538
OCTOBER	.212	.094	.025	.110	.012	.086	.539
NOVEMBER	.212	.094	.025	.109	.012	.086	.538
DECEMBER	.212	.094	.025	.109	.012	.086	.538
	1953						
JANUARY	.220	.095	.025	.109	.012	.086	.547
FEBRUARY	.220	.095	.025	.110	.012	.086	.548
MARCH	.220	.095	.025	.111	.012	.086	.549
APRIL	.220	.094	.025	.110	.012	.086	.547
MAY	.220	.094	.025	.111	.012	.086	.548
JUNE	.220	.095	.025	.112	.012	.086	.550
JULY	.220	.098	.026	.114	.013	.086	.557
AUGUST	.220	.097	.026	.114	.013	.086	.556
SEPTEMBER	.220	.097	.026	.113	.013	.087	.556
OCTOBER	.220	.098	.027	.113	.013	.087	.558
NOVEMBER	.220	.098	.027	.113	.013	.087	.558
DECEMBER	.220	.098	.027	.113	.013	.087	.558

Continued on next page

Table 8—Butter and Nonfat Dry Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1954						
JANUARY	.226	.097	.027	.112	.013	.087	.562
FEBRUARY	.226	.097	.027	.111	.013	.087	.561
MARCH	.226	.096	.027	.112	.013	.087	.561
APRIL	.226	.095	.028	.112	.013	.087	.561
MAY	.226	.095	.028	.112	.013	.087	.561
JUNE	.226	.095	.028	.112	.013	.087	.561
JULY	.226	.093	.028	.113	.013	.087	.560
AUGUST	.226	.094	.028	.114	.013	.087	.562
SEPTEMBER	.226	.094	.028	.114	.013	.087	.562
OCTOBER	.226	.094	.029	.115	.013	.087	.564
NOVEMBER	.226	.094	.029	.115	.014	.087	.565
DECEMBER	.226	.094	.029	.115	.014	.087	.565
	1955						
JANUARY	.234	.095	.030	.115	.014	.087	.575
FEBRUARY	.234	.095	.030	.116	.014	.088	.577
MARCH	.234	.095	.030	.116	.014	.088	.577
APRIL	.234	.094	.030	.117	.014	.088	.577
MAY	.234	.094	.030	.117	.014	.088	.577
JUNE	.234	.094	.030	.117	.014	.089	.578
JULY	.234	.093	.031	.121	.014	.090	.583
AUGUST	.234	.094	.031	.123	.014	.090	.586
SEPTEMBER	.234	.095	.031	.125	.014	.090	.589
OCTOBER	.234	.095	.031	.126	.014	.090	.590
NOVEMBER	.234	.095	.031	.126	.014	.090	.590
DECEMBER	.234	.096	.031	.127	.014	.091	.593
	1956						
JANUARY	.240	.097	.031	.128	.015	.092	.603
FEBRUARY	.240	.098	.031	.128	.015	.093	.605
MARCH	.240	.097	.031	.129	.015	.093	.605
APRIL	.240	.097	.033	.130	.015	.093	.608
MAY	.240	.097	.033	.130	.015	.093	.608
JUNE	.240	.097	.033	.129	.015	.094	.608
JULY	.240	.097	.033	.128	.015	.095	.608
AUGUST	.240	.097	.033	.133	.015	.095	.613
SEPTEMBER	.240	.098	.033	.134	.015	.095	.615
OCTOBER	.240	.098	.032	.134	.015	.095	.614
NOVEMBER	.240	.098	.032	.134	.015	.095	.614
DECEMBER	.240	.100	.032	.134	.015	.095	.616

Continued on next page

Table 8—Butter and Nonfat Dry Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1957						
JANUARY	.248	.102	.032	.134	.015	.095	.626
FEBRUARY	.248	.105	.032	.134	.015	.095	.629
MARCH	.248	.105	.032	.133	.015	.096	.629
APRIL	.248	.105	.034	.133	.016	.097	.633
MAY	.248	.104	.034	.132	.016	.098	.632
JUNE	.248	.103	.034	.133	.016	.098	.632
JULY	.248	.102	.034	.135	.016	.098	.633
AUGUST	.248	.102	.034	.135	.016	.098	.633
SEPTEMBER	.248	.102	.034	.134	.016	.098	.632
OCTOBER	.248	.102	.034	.133	.016	.098	.631
NOVEMBER	.248	.102	.034	.133	.016	.098	.631
DECEMBER	.248	.102	.034	.133	.016	.098	.631
	1958						
JANUARY	.254	.102	.034	.132	.016	.098	.636
FEBRUARY	.254	.100	.034	.133	.016	.098	.635
MARCH	.254	.099	.034	.132	.016	.098	.633
APRIL	.254	.097	.036	.131	.016	.098	.632
MAY	.254	.097	.036	.131	.016	.097	.631
JUNE	.254	.097	.036	.131	.016	.097	.631
JULY	.254	.098	.037	.131	.017	.097	.634
AUGUST	.254	.100	.037	.133	.017	.097	.638
SEPTEMBER	.254	.100	.037	.134	.017	.097	.639
OCTOBER	.254	.099	.037	.134	.017	.097	.638
NOVEMBER	.254	.099	.037	.135	.017	.097	.639
DECEMBER	.254	.099	.037	.135	.017	.097	.639
	1959						
JANUARY	.282	.100	.037	.135	.017	.097	.668
FEBRUARY	.282	.101	.037	.135	.017	.097	.669
MARCH	.282	.101	.037	.136	.017	.097	.670
APRIL	.282	.100	.037	.135	.017	.098	.669
MAY	.282	.100	.037	.135	.017	.098	.669
JUNE	.282	.098	.037	.135	.017	.098	.667
JULY	.282	.098	.039	.135	.017	.099	.670
AUGUST	.282	.099	.039	.135	.017	.099	.671
SEPTEMBER	.282	.098	.039	.136	.017	.099	.671
OCTOBER	.282	.098	.038	.136	.017	.099	.670
NOVEMBER	.282	.098	.038	.138	.017	.099	.672
DECEMBER	.282	.098	.038	.137	.017	.099	.671

Continued on next page

Table 8—Butter and Nonfat Dry Milk, *concluded*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1960						
JANUARY	.307	.098	.038	.137	.017	.099	.696
FEBRUARY	.307	.098	.038	.137	.017	.099	.696
MARCH	.307	.099	.038	.136	.017	.099	.696
APRIL	.307	.099	.040	.136	.018	.100	.700
MAY	.307	.097	.040	.136	.018	.100	.698
JUNE	.307	.099	.040	.136	.018	.100	.700
JULY	.307	.100	.040	.135	.018	.100	.700
AUGUST	.307	.101	.040	.136	.018	.100	.702
SEPTEMBER	.307	.102	.040	.136	.018	.100	.703
OCTOBER	.307	.102	.039	.135	.018	.100	.701
NOVEMBER	.307	.102	.039	.134	.018	.100	.700
DECEMBER	.307	.102	.039	.134	.018	.100	.700
	1961						
JANUARY	.331	.103	.040	.134	.018	.100	.726
FEBRUARY	.331	.103	.040	.134	.018	.100	.726
MARCH	.331	.103	.040	.135	.018	.100	.727
APRIL	.331	.101	.041	.135	.018	.100	.726
MAY	.331	.100	.041	.135	.018	.100	.725
JUNE	.331	.100	.041	.135	.018	.100	.725
JULY	.331	.101	.041	.135	.018	.100	.726
AUGUST	.331	.100	.041	.136	.018	.100	.726
SEPTEMBER	.331	.100	.041	.136	.018	.100	.726
OCTOBER	.331	.099	.041	.135	.018	.100	.724
NOVEMBER	.331	.100	.041	.135	.018	.100	.725
DECEMBER	.331	.101	.041	.135	.018	.100	.726

*Calculation of constants used to adjust 1950-1961 cost figures for butter-nonfat dry milk:

Labor $= \frac{\text{Annual average labor costs, 1961}}{\text{Annual average labor index, 1961}} = \frac{.331}{164.3} = .2016$

Building $= \frac{\text{Annual average building costs, 1961}}{\text{Annual average index of construction and building costs, 1961}} = \frac{.041}{906} = .0045$

Equipment $= \frac{\text{Annual average equipment costs, 1961}}{\text{Annual average index of metal and metal products, 1961}} = \frac{.135}{152.9} = .0883$

Utilities $= \frac{\text{Annual average utility costs, 1961}}{\text{Annual average index of fuel, power, and lighting materials, 1961}} = \frac{.101}{115.0} = .0878$

Consumable supplies $= \frac{\text{Annual average consumable supplies costs, 1961}}{\text{Annual average of combined indexes for building costs, metal and metal products, and fuel, power, and lighting materials, 1961}} = \frac{.018}{391.3} = .0046$

Packaging Supplies insurance. $= \frac{\text{Annual average packaging supplies costs, 1961}}{\text{Annual average index of wholesale prices, 1961}} = \frac{.100}{145.6} = .0686$

†Consumable supply costs include laboratory supplies, office supplies, cleaning supplies, and liability

Table 9. Costs of Processing 100 Pounds of Milk Into Butter and Condensed Skim Milk, by Months, California, 1950–1961*

Month	Labor	Utilities	Building	Equipment	Consumable† supply	Packaging supply	Total processing cost
	dollars per hundredweight						
	1950						
January	.165	.060	.017	.076	.011	.009	.338
February	.165	.060	.017	.076	.011	.009	.338
March	.165	.060	.017	.076	.011	.009	.338
April	.165	.060	.018	.076	.011	.009	.339
May	.165	.060	.018	.077	.011	.009	.340
June	.165	.061	.018	.079	.011	.009	.343
July	.165	.061	.018	.079	.011	.009	.343
August	.165	.061	.018	.080	.011	.010	.345
September	.165	.062	.018	.082	.011	.010	.348
October	.165	.062	.019	.084	.011	.010	.351
November	.165	.062	.019	.085	.011	.010	.352
December	.165	.062	.019	.088	.011	.010	.355
	1951						
January	.169	.063	.019	.090	.011	.010	.362
February	.169	.063	.019	.090	.011	.010	.362
March	.169	.063	.019	.089	.011	.010	.361
April	.169	.063	.019	.090	.012	.010	.363
May	.169	.063	.019	.089	.012	.010	.362
June	.169	.063	.019	.089	.012	.010	.362
July	.169	.063	.019	.089	.012	.011	.363
August	.169	.063	.019	.089	.012	.011	.363
September	.169	.063	.019	.089	.012	.011	.363
October	.169	.063	.019	.089	.012	.011	.363
November	.169	.063	.019	.089	.012	.011	.363
December	.169	.063	.019	.089	.012	.011	.363
	1952						
January	.177	.063	.019	.089	.012	.011	.371
February	.177	.063	.019	.089	.012	.011	.371
March	.177	.063	.019	.089	.012	.011	.371
April	.177	.063	.020	.089	.012	.011	.372
May	.177	.063	.020	.088	.012	.011	.371
June	.177	.063	.020	.088	.012	.011	.371
July	.177	.063	.021	.088	.012	.011	.372
August	.177	.063	.021	.090	.012	.011	.374
September	.177	.063	.021	.090	.012	.011	.374
October	.177	.063	.020	.090	.012	.011	.373
November	.177	.063	.020	.090	.012	.011	.373
December	.177	.063	.020	.090	.012	.011	.373

See p. 74 for footnotes.

Continued on next page

Table 9—Butter and Condensed Skim Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1953						
JANUARY	.184	.064	.020	.090	.012	.011	.381
FEBRUARY	.184	.064	.020	.090	.012	.011	.381
MARCH	.184	.064	.020	.091	.012	.011	.382
APRIL	.184	.063	.020	.091	.012	.011	.381
MAY	.184	.063	.020	.091	.012	.011	.381
JUNE	.184	.064	.020	.092	.012	.011	.383
JULY	.184	.066	.021	.094	.013	.011	.389
AUGUST	.184	.066	.021	.094	.013	.011	.389
SEPTEMBER	.184	.066	.021	.093	.013	.011	.388
OCTOBER	.184	.066	.022	.093	.013	.011	.389
NOVEMBER	.184	.066	.022	.093	.013	.011	.389
DECEMBER	.184	.066	.022	.093	.013	.011	.389
	1954						
JANUARY	.189	.065	.022	.092	.013	.011	.392
FEBRUARY	.189	.065	.022	.092	.013	.011	.392
MARCH	.189	.065	.022	.092	.013	.011	.392
APRIL	.189	.064	.022	.092	.013	.011	.391
MAY	.189	.064	.022	.092	.013	.011	.391
JUNE	.189	.064	.022	.092	.013	.011	.391
JULY	.189	.063	.023	.093	.013	.011	.392
AUGUST	.189	.063	.023	.093	.013	.011	.392
SEPTEMBER	.189	.063	.023	.094	.013	.011	.393
OCTOBER	.189	.063	.023	.094	.013	.011	.393
NOVEMBER	.189	.063	.023	.094	.014	.011	.394
DECEMBER	.189	.063	.023	.094	.014	.011	.394
	1955						
JANUARY	.196	.064	.024	.094	.014	.011	.403
FEBRUARY	.196	.064	.024	.095	.014	.011	.404
MARCH	.196	.064	.024	.096	.014	.011	.405
APRIL	.196	.063	.024	.096	.014	.011	.404
MAY	.196	.063	.024	.096	.014	.011	.404
JUNE	.196	.063	.024	.096	.014	.011	.404
JULY	.196	.063	.025	.099	.014	.012	.409
AUGUST	.196	.063	.025	.101	.014	.012	.411
SEPTEMBER	.196	.064	.025	.103	.014	.012	.414
OCTOBER	.196	.064	.025	.103	.014	.012	.414
NOVEMBER	.196	.064	.025	.104	.014	.012	.415
DECEMBER	196	.065	.025	.104	.014	.012	.416

Continued on next page

Table 9—Butter and Condensed Skim Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1956						
JANUARY	.201	.066	.025	.105	.015	.012	.424
FEBRUARY	.201	.066	.025	.105	.015	.012	.424
MARCH	.201	.066	.025	.106	.015	.012	.425
APRIL	.201	.065	.026	.107	.015	.012	.426
MAY	.201	.065	.026	.107	.015	.012	.426
JUNE	.201	.065	.026	.106	.015	.012	.425
JULY	.201	.065	.026	.105	.015	.012	.424
AUGUST	.201	.066	.026	.109	.015	.012	.429
SEPTEMBER	.201	.066	.026	.110	.015	.012	.430
OCTOBER	.201	.066	.026	.110	.015	.012	.430
NOVEMBER	.201	.066	.026	.110	.015	.012	.430
DECEMBER	.201	.067	.026	.111	.015	.012	.432
	1957						
JANUARY	.207	.069	.026	.110	.015	.012	.439
FEBRUARY	.207	.071	.026	.110	.015	.012	.441
MARCH	.207	.070	.026	.110	.015	.012	.440
APRIL	.207	.071	.027	.109	.016	.013	.443
MAY	.207	.070	.027	.109	.016	.013	.442
JUNE	.207	.069	.027	.109	.016	.013	.441
JULY	.207	069	.027	.111	.016	.013	.443
AUGUST	.207	.069	.027	.111	.016	.013	.443
SEPTEMBER	.207	.069	.027	.110	.016	.013	.442
OCTOBER	.207	.068	.027	.109	.016	.013	.440
NOVEMBER	.207	.068	.027	.109	.016	.013	.440
DECEMBER	.207	.069	.027	.109	.016	.013	.441
	1958						
JANUARY	.212	.069	.027	.109	.016	.013	.446
FEBRUARY	.212	.067	.027	.109	.016	.013	.444
MARCH	.212	.066	.027	.109	.016	.013	.443
APRIL	.212	.066	.029	.108	.016	.013	.444
MAY	.212	.065	.029	.108	.016	.013	.443
JUNE	.212	.065	.029	.108	.016	.013	.443
JULY	.212	.066	.030	.108	.017	.013	.446
AUGUST	.212	.067	.030	.109	.017	.013	.448
SEPTEMBER	.212	.067	.030	.110	.017	.013	.449
OCTOBER	.212	.067	.029	.110	.017	.013	.448
NOVEMBER	.212	.067	.029	.111	.017	.013	.449
DECEMBER	.212	.067	.029	.111	.017	.013	.449

Continued on next page

Table 9—Butter and Condensed Skim Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1959						
JANUARY	.236	.067	.029	.111	.017	.013	.473
FEBRUARY	.236	.068	.029	.111	.017	.013	.474
MARCH	.236	.068	.029	.112	.017	.013	.475
APRIL	.236	.067	.030	.111	.017	.013	.474
MAY	.236	.067	.030	.111	.017	.013	.474
JUNE	.236	.066	.030	.111	.017	.013	.473
JULY	.236	.066	.031	.111	.017	.013	.474
AUGUST	.236	.066	.031	.111	.017	.013	.474
SEPTEMBER	.236	.066	.031	.112	.017	.013	.475
OCTOBER	.236	.066	.031	.112	.017	.013	.475
NOVEMBER	.236	.066	.031	.113	.017	.013	.476
DECEMBER	.236	.066	.031	.113	.017	.013	.476
	1960						
JANUARY	.257	.066	.031	.113	.017	.013	.497
FEBRUARY	.257	.066	.031	.113	.017	.013	.497
MARCH	.257	.066	.031	.112	.017	.013	.496
APRIL	.257	.066	.032	.112	.018	.013	.498
MAY	.257	.065	.032	.112	.018	.013	.497
JUNE	.257	.066	.032	.112	.018	.013	.498
JULY	.257	.067	.031	.111	.018	.013	.497
AUGUST	.257	.068	.031	.112	.018	.013	.499
SEPTEMBER	.257	.069	.031	.111	.018	.013	.499
OCTOBER	.257	.069	.032	.111	.018	.013	.500
NOVEMBER	.257	.069	.032	.111	.018	.013	.500
DECEMBER	.257	.069	.032	.110	.018	.013	.499
	1961						
JANUARY	.277	.069	.032	.110	.018	.013	.519
FEBRUARY	.277	.069	.032	.111	.018	.013	.520
MARCH	.277	.069	.032	.111	.018	.013	.520
APRIL	.277	.068	.033	.111	.018	.013	.520
MAY	.277	.067	.033	.111	.018	.013	.519
JUNE	.277	.068	.033	.111	.018	.013	.520
JULY	.277	.068	.033	.111	.018	.013	.520
AUGUST	.277	.068	.033	.112	.018	.013	.521
SEPTEMBER	.277	.067	.033	.112	.018	.013	.520
OCTOBER	.277	.067	.033	.111	.018	.013	.519
NOVEMBER	.277	.067	.033	.111	.018	.013	.519
DECEMBER	.277	.068	.033	.111	.018	.013	.520

Continued on next page

* Calculation of constants used to adjust 1950-1961 cost figures for butter-condensed skim milk:

Labor = $\frac{\text{Annual average labor costs, 1961}}{\text{Annual average labor index, 1961}} = \frac{.277}{164.3} = .1686$

Building = $\frac{\text{Annual average building costs, 1961}}{\text{Annual average index of construction and building costs, 1961}} = \frac{.033}{906} = .0036$

Equipment = $\frac{\text{Annual average equipment costs, 1961}}{\text{Annual average index of metal and metal products, 1961}} = \frac{.111}{152.9} = .0726$

Utilities = $\frac{\text{Annual average utility costs, 1961}}{\text{Annual average index of fuel, power, and lighting materials, 1961}} = \frac{.068}{115.0} = .0591$

Consumable supplies = $\frac{\text{Annual average consumable supplies costs, 1961}}{\text{Annual average of combined indexes for building costs, metal and metal products, and fuel, power, and lighting materials, 1961}} = \frac{.018}{391.3} = .0046$

Packaging supplies = $\frac{\text{Annual average packaging supplies costs, 1961}}{\text{Annual average index of wholesale prices, 1961}} = \frac{.013}{145.6} = .0089$

† Consumable supply costs include laboratory supplies, office supplies, cleaning supplies, and liability insurance.

Table 10. Costs of Processing 100 Pounds of Milk Into Butter and Cottage Cheese, by Months, California, 1950–1961*

Month	Labor	Utilities	Building	Equipment	Consumable† supply	Packaging supply	Total processing cost
	dollars per hundredweight						
	1950						
January	.250	.027	.014	.087	.011	.008	.397
February	.250	.027	.014	.088	.011	.008	.398
March	.250	.027	.014	.088	.011	.008	.398
April	.250	.026	.014	.088	.011	.008	.397
May	.250	.027	.014	.089	.011	.008	.399
June	.250	.027	.014	.091	.011	.008	.401
July	.250	.027	.015	.091	.012	.008	.403
August	.250	.027	.015	.093	.012	.008	.405
September	.250	.027	.015	.095	.012	.008	.407
October	.250	.027	.015	.097	.012	.008	.409
November	.250	.028	.015	.099	.012	.008	.412
December	.250	.027	.015	.102	.012	.008	.414

See p. 78 for footnotes.

Continued on next page

Table 10—Butter and Cottage Cheese, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1951						
JANUARY	.255	.028	.015	.104	.012	.009	.423
FEBRUARY	.255	.028	.015	.104	.012	.009	.423
MARCH	.255	.028	.015	.103	.012	.009	.422
APRIL	.255	.028	015	.103	.012	.009	.422
MAY	.255	.028	.015	.103	.012	.009	.422
JUNE	.255	.028	.015	.103	.012	.009	.422
JULY	.255	.028	.015	.102	.012	.009	.421
AUGUST	.255	.028	.015	.102	.012	.009	.421
SEPTEMBER	.255	.028	.015	.102	.012	.009	.421
OCTOBER	.255	.028	.015	.102	.012	.009	.421
NOVEMBER	.255	.028	.015	.103	.012	.009	.422
DECEMBER	.255	.028	.015	.103	.012	.009	.422
	1952						
JANUARY	.268	.028	.015	.102	.012	.009	.434
FEBRUARY	.268	.028	.015	.103	.012	.009	.435
MARCH	.268	.028	.015	.103	.012	.009	.435
APRIL	.268	.028	.016	.103	.013	.009	.437
MAY	.268	.028	.016	.102	.013	.009	.436
JUNE	.268	.028	.016	.101	.013	.009	.435
JULY	.268	.028	.017	.102	.013	.009	.437
AUGUST	.268	.028	.017	.104	.013	.009	.439
SEPTEMBER	.268	.028	.017	.104	.013	.009	.439
OCTOBER	.268	.028	.016	.104	.013	.009	.438
NOVEMBER	.268	.028	.016	.104	.013	.009	.438
DECEMBER	.268	.028	.016	.104	.013	.009	.438
	1953						
JANUARY	.278	.028	.016	.104	.013	.009	.448
FEBRUARY	.278	.028	.016	.104	.013	.009	.448
MARCH	.278	.028	.016	.105	.013	.009	.449
APRIL	.278	.028	.016	.105	.013	.009	.449
MAY	.278	.028	.016	.105	.013	.009	.449
JUNE	.278	.028	.016	.106	.013	.009	.450
JULY	.278	.029	.017	.108	.013	.009	.454
AUGUST	.278	.029	.017	.108	.013	.009	.454
SEPTEMBER	.278	.029	.017	.108	.013	.009	.454
OCTOBER	.278	.029	.017	.107	.013	.009	.453
NOVEMBER	.278	.029	.017	.107	.013	.009	.453
DECEMBER	.278	.029	.017	.107	.013	.009	.453

Continued on next page

Table 10—Butter and Cottage Cheese, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1954						
JANUARY	.285	.029	.017	.106	.013	.009	.459
FEBRUARY	.285	.029	.017	.106	.013	.009	.459
MARCH	.285	.029	.017	.106	.013	.009	.459
APRIL	.285	.028	.018	.106	.014	.009	.460
MAY	.285	.028	.018	.106	.014	.009	.460
JUNE	.285	.028	.018	.106	.014	.009	.460
JULY	.285	.028	.018	.107	.014	.009	.461
AUGUST	.285	.028	.018	.108	.014	.009	.462
SEPTEMBER	.285	.028	.018	.108	.014	.009	.462
OCTOBER	.285	.028	.019	.109	.014	.009	.464
NOVEMBER	.285	.028	.019	.109	.014	.009	.464
DECEMBER	.285	.028	.019	.109	.014	.009	.464
	1955						
JANUARY	.296	.028	.019	.109	.014	.009	.475
FEBRUARY	.296	.028	.019	.110	.014	.009	.476
MARCH	.296	.028	.019	.110	.014	.009	.476
APRIL	.296	.028	.020	.111	.015	.009	.479
MAY	.296	.028	.020	.111	.015	.009	.479
JUNE	.296	.028	.020	.111	.015	.009	.479
JULY	.296	.028	.020	.114	.015	.010	.483
AUGUST	.296	.028	.020	.117	.015	.010	.486
SEPTEMBER	.296	.028	.020	.119	.015	.010	.488
OCTOBER	.296	.028	.020	.119	.015	.010	.488
NOVEMBER	.296	.028	.020	.120	.015	.010	.489
DECEMBER	.296	.029	.020	.120	.015	.010	.490
	1956						
JANUARY	.303	.029	.020	.121	.015	.010	.498
FEBRUARY	.303	.029	.020	.121	.015	.010	.498
MARCH	.303	.029	.020	.123	.015	.010	.500
APRIL	.303	.029	.021	.124	.016	.010	.503
MAY	.303	.029	.021	.123	.016	.010	.502
JUNE	.303	.029	.021	.122	.016	.010	.501
JULY	.303	.029	.021	.121	.016	.010	.500
AUGUST	.303	.029	.021	.126	.016	.010	.505
SEPTEMBER	.303	.029	.021	.127	.016	.010	.506
OCTOBER	.303	.029	.021	.127	.016	.010	.506
NOVEMBER	.303	.029	.021	.127	.016	.010	.506
DECEMBER	.303	.030	.021	.127	.016	.010	.507

Continued on next page

Table 10—Butter and Cottage Cheese, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1957						
JANUARY	.313	.030	.021	.127	.016	.010	.517
FEBRUARY	.313	.031	.021	.127	.016	.010	.518
MARCH	.313	.031	.021	.126	.016	.010	.517
APRIL	.313	.031	.022	.126	.016	.010	.518
MAY	.313	.031	.022	.126	.016	.010	.518
JUNE	.313	.031	.022	.126	.016	.010	.518
JULY	.313	.030	.022	.128	.017	.010	.520
AUGUST	.313	.030	.022	.128	.017	.010	.520
SEPTEMBER	.313	.030	.022	.127	.017	.010	.519
OCTOBER	.313	.030	.022	.126	.016	.010	.517
NOVEMBER	.313	.030	.022	.126	.016	.010	.517
DECEMBER	.313	.030	.022	.126	.016	.010	.517
	1958						
JANUARY	.321	.030	.022	.126	.016	.010	.525
FEBRUARY	.321	.030	.022	.126	.016	.010	.525
MARCH	.321	.029	.022	.125	.016	.010	.523
APRIL	.321	.029	.023	.124	.017	.010	.524
MAY	.321	.029	.023	.124	.017	.010	.524
JUNE	.321	.029	.023	.125	.017	.010	.525
JULY	.321	.029	.024	.125	.017	.010	.526
AUGUST	.321	.030	.024	.126	.017	.010	.528
SEPTEMBER	.321	.030	.024	.127	.017	.010	.529
OCTOBER	.321	.030	.024	.127	.017	.010	.529
NOVEMBER	.321	.030	.024	.128	.017	.010	.530
DECEMBER	.321	.030	.024	.128	.017	.010	.530
	1959						
JANUARY	.356	.030	.024	.128	.017	.010	.565
FEBRUARY	.356	.030	.024	.128	.017	.010	.565
MARCH	.356	.030	.024	.129	.017	.010	.566
APRIL	.356	.030	.024	.128	.017	.010	.565
MAY	.356	.030	.024	.128	.017	.010	.565
JUNE	.356	.029	.024	.128	.017	.010	.564
JULY	.356	.029	.025	.128	.018	.010	.566
AUGUST	.356	.029	.025	.128	.018	.010	.566
SEPTEMBER	.356	.029	.025	.129	.018	.010	.567
OCTOBER	.356	.029	.025	.129	.018	.011	.568
NOVEMBER	.356	.029	.025	.130	.018	.011	.569
DECEMBER	.356	.029	.025	.130	.018	.011	.569

Continued on next page

Table 10—Butter and Cottage Cheese, *concluded*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1960						
JANUARY	.388	.029	.025	.130	.018	.011	.601
FEBRUARY	.388	.029	.025	.130	.018	.011	.601
MARCH	.388	.029	.025	.129	.018	.011	.600
APRIL	.388	.029	.026	.129	.018	.011	.601
MAY	.388	.029	.026	.129	.018	.011	.601
JUNE	.388	.029	.026	.129	.018	.011	.601
JULY	.388	.030	.026	.128	.018	.011	.601
AUGUST	.388	.030	.026	.129	.018	.011	.602
SEPTEMBER	.388	.030	.026	.128	.018	.011	.601
OCTOBER	.388	.030	.025	.128	.018	.011	.600
NOVEMBER	.388	.030	.025	.127	.018	.011	.599
DECEMBER	.388	.030	.025	.127	.018	.011	.599
	1961						
JANUARY	.419	.031	.025	.127	.018	.011	.631
FEBRUARY	.419	.031	.025	.127	.018	.011	.631
MARCH	.419	.031	.025	.128	.018	.011	.632
APRIL	.419	.030	.027	.128	.019	.011	.634
MAY	.419	.030	.027	.128	.019	.011	.634
JUNE	.419	.030	.027	.128	.019	.011	.634
JULY	.419	.030	.027	.128	.019	.011	.634
AUGUST	.419	.030	.027	.129	.019	.011	.635
SEPTEMBER	.419	.030	.027	.129	.019	.011	.635
OCTOBER	.419	.030	.026	.128	.019	.011	.633
NOVEMBER	.419	.030	.026	.128	.019	.011	.633
DECEMBER	.419	.030	.026	.128	.019	.011	.633

* Calculation of constants used to adjust 1950-1961 cost figures for butter-cottage cheese:

Labor $= \frac{\text{Annual average labor costs, 1961}}{\text{Annual average labor index, 1961}} = \frac{.419}{164.3} = .2548$

Building $= \frac{\text{Annual average building costs, 1961}}{\text{Annual average index of construction and building costs, 1961}} = \frac{.026}{906} = .0029$

Equipment $= \frac{\text{Annual average equipment costs, 1961}}{\text{Annual average index of metal and metal products, 1961}} = \frac{.128}{152.9} = .0837$

Utilities $= \frac{\text{Annual average utility costs, 1961}}{\text{Annual average index of fuel, power, and lighting materials, 1961}} = \frac{.030}{115.0} = .0262$

Consumable supplies $= \frac{\text{Annual average consumable supplies costs, 1961}}{\text{Annual average of combined indexes for building costs, metal and metal products, and fuel, power, and lighting materials, 1961}} = \frac{.019}{391.3} = .0048$

Packaging supplies $= \frac{\text{Annual average packaging supplies costs, 1961}}{\text{Annual average index of wholesale prices, 1961}} = \frac{.011}{145.6} = .0073$

† Consumable supply costs include laboratory supplies, office supplies, cleaning supplies, and liability insurance.

Table 11. Costs of Processing 100 Pounds of Milk Into Ice Cream Mix and Nonfat Dry Milk, by Months, California, 1950–1961*

Month	Labor	Utilities	Building	Equipment	Consumable† supply	Packaging supply	Total processing cost
	dollars per hundredweight						
	1950						
January	.182	.070	.024	.105	.011	.042	.434
February	.182	.070	.024	.106	.011	.043	.436
March	.182	.070	.024	.106	.011	.043	.436
April	.182	.069	.025	.106	.011	.043	.436
May	.182	.070	.025	.107	.011	.043	.438
June	.182	.070	.025	.110	.012	.043	.442
July	.182	.071	.026	.110	.012	.043	.444
August	.182	.071	.026	.112	.012	.044	.447
September	.182	.072	.026	.114	.012	.045	.451
October	.182	.072	.026	.117	.012	.046	.455
November	.182	.072	.026	.119	.012	.046	.457
December	.182	.072	.026	.123	.012	.048	.463
	1951						
January	.186	.073	.026	.125	.012	.048	.470
February	.186	.074	.026	.125	.012	.048	.471
March	.186	.074	.026	.124	.012	.048	.470
April	.186	.073	.027	.124	.012	.048	.470
May	.186	.073	.027	.124	.012	.048	.470
June	.186	.073	.027	.124	.012	.049	.471
July	.186	.073	.026	.123	.012	.049	.469
August	.186	.073	.026	.123	.012	.049	.469
September	.186	.073	.026	.123	.012	.050	.470
October	.186	.073	.026	.123	.012	.050	.470
November	.186	.073	.026	.123	.012	.051	.471
December	.186	.074	.026	.123	.012	.051	.472
	1952						
January	.195	.074	.027	.123	.012	.051	.482
February	.195	.074	.027	.123	.012	.051	.482
March	.195	.074	.027	.123	.012	.051	.482
April	.195	.073	.028	.123	.013	.051	.483
May	.195	.073	.028	.123	.013	.051	.483
June	.195	.073	.028	.122	.013	.051	.482
July	.195	.073	.029	.123	.013	.051	.484
August	.195	.073	.029	.125	.013	.051	.486
September	.195	.073	.029	.125	.013	.051	.486
October	.195	.073	.028	.125	.013	.052	.486
November	.195	.073	.028	.125	.013	.052	.486
December	.195	.074	.028	.125	.013	.052	.487

See p. 83 for footnotes.

Continued on next page

Table 11—Ice Cream Mix and Nonfat Dry Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1953						
JANUARY	.203	.074	.028	.125	.013	.052	.495
FEBRUARY	.203	.074	.028	.125	.013	.052	.495
MARCH	.203	.074	.028	.126	.013	.052	.496
APRIL	.203	.074	.028	.126	.013	.052	.496
MAY	.203	.074	.028	.127	.013	.052	.497
JUNE	.203	.074	.028	.128	.013	.052	.498
JULY	.203	.076	.029	.130	.014	.052	.504
AUGUST	.203	.076	.029	.130	.014	.052	.504
SEPTEMBER	.203	.076	.029	.129	.013	.052	.502
OCTOBER	.203	.076	.030	.129	.014	.052	.504
NOVEMBER	.203	.076	.030	.129	.014	.052	.504
DECEMBER	.203	.076	.030	.128	.014	.052	.503
	1954						
JANUARY	.207	.076	.030	.128	.014	.052	.507
FEBRUARY	.207	.076	.030	.127	.014	.052	.506
MARCH	.207	.075	.030	.127	.014	.052	.505
APRIL	.207	.075	.031	.128	.014	.052	.507
MAY	.207	.074	.031	.128	.014	.052	.506
JUNE	.207	.074	.031	.128	.014	.052	.506
JULY	.207	.073	.032	.129	.014	.052	.507
AUGUST	.207	.073	.032	.130	.014	.052	.508
SEPTEMBER	.207	.073	.032	.130	.014	.052	.508
OCTOBER	.207	.073	.032	.131	.014	.052	.509
NOVEMBER	.207	.074	.032	.131	.014	.052	.510
DECEMBER	.207	.074	.032	.131	.014	.052	.510
	1955						
JANUARY	.216	.075	.033	.131	.015	.053	.523
FEBRUARY	.216	.075	.033	.132	.015	.053	.524
MARCH	.216	.075	.033	.133	.015	.053	.525
APRIL	.216	.074	.034	.134	.015	.053	.526
MAY	.216	.074	.034	.133	.015	.053	.525
JUNE	.216	.073	.034	.134	.015	.053	.525
JULY	.216	.073	.034	.138	.015	.054	.530
AUGUST	.216	.074	.034	.140	.015	.054	.533
SEPTEMBER	.216	.074	.034	.143	.015	.054	.536
OCTOBER	.216	.074	.034	.143	.015	.054	.536
NOVEMBER	.216	.075	.034	.144	.015	.054	.538
DECEMBER	.216	.075	.034	.145	.015	.055	.540

Continued on next page

Table 11—Ice Cream Mix and Nonfat Dry Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1956						
JANUARY	.221	.076	.035	.146	.016	.056	.550
FEBRUARY	.221	.076	.035	.146	.016	.056	.550
MARCH	.221	.076	.035	.148	.016	.056	.552
APRIL	.221	.076	.036	.149	.016	.056	.554
MAY	.221	.076	.036	.148	.016	.056	.553
JUNE	.221	.076	.036	.147	.016	.057	.553
JULY	.221	.076	.036	.146	.016	.057	.552
AUGUST	.221	.076	.036	.151	.016	.057	.557
SEPTEMBER	.221	.076	.036	.153	.016	.057	.559
OCTOBER	.221	.077	.036	.153	.016	.057	.560
NOVEMBER	.221	.076	.036	.153	.016	.057	.559
DECEMBER	.221	.078	.036	.153	.016	.057	.561
	1957						
JANUARY	.228	.080	.036	.153	.016	.057	.570
FEBRUARY	.228	.082	.036	.152	.016	.057	.571
MARCH	.228	.082	.036	.152	.016	.058	.572
APRIL	.228	.082	.038	.151	.017	.058	.574
MAY	.228	.081	.038	.151	.017	.059	.574
JUNE	.228	.081	.038	.152	.017	.059	.575
JULY	.228	.080	.038	.153	.017	.059	.575
AUGUST	.228	.080	.038	.154	.017	.059	.576
SEPTEMBER	.228	.080	.038	.153	.017	.059	.575
OCTOBER	.228	.080	.038	.152	.017	.059	.574
NOVEMBER	.228	.079	.038	.151	.017	.059	.572
DECEMBER	.228	.080	.038	.152	.017	.059	.574
	1958						
JANUARY	.234	.080	.038	.151	.017	.059	.579
FEBRUARY	.234	.078	.038	.151	.017	.059	.577
MARCH	.234	.077	.038	.151	.017	.059	.576
APRIL	.234	.076	.040	.150	.017	.059	.576
MAY	.234	.076	.040	.150	.017	.059	.576
JUNE	.234	.076	.040	.150	.017	.059	.576
JULY	.234	.077	.041	.150	.018	.059	.579
AUGUST	.234	.078	.041	.152	.018	.059	.582
SEPTEMBER	.234	.078	.041	.152	.018	.059	.582
OCTOBER	.234	.078	.041	.153	.018	.059	.583
NOVEMBER	.234	.077	.041	.154	.018	.059	.583
DECEMBER	.234	.078	.041	.154	.018	.059	.584

Continued on next page

Table 11—Ice Cream Mix and Nonfat Dry Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1959						
JANUARY	.260	.078	.041	.154	.018	.059	.610
FEBRUARY	.260	.079	.041	.154	.018	.059	.611
MARCH	.260	.079	.041	.155	.018	.059	.612
APRIL	.260	.078	.041	.154	.018	.059	.610
MAY	.260	.078	.041	.154	.018	.059	.610
JUNE	.260	.076	.041	.154	.018	.059	.608
JULY	.260	.076	.043	.154	.018	.059	.610
AUGUST	.260	.077	.043	.154	.018	.059	.611
SEPTEMBER	.260	.077	.043	.155	.018	.059	.612
OCTOBER	.260	.077	.042	.156	.018	.060	.613
NOVEMBER	.260	.076	.042	.157	.018	.060	.613
DECEMBER	.260	.077	.042	.156	.018	.060	.613
	1960						
JANUARY	.283	.077	.043	.157	.018	.060	.638
FEBRUARY	.283	.077	.043	.156	.018	.060	.637
MARCH	.283	.077	.043	.156	.018	.060	.637
APRIL	.283	.077	.044	.156	.019	.060	.639
MAY	.283	.076	.044	.155	.019	.060	.637
JUNE	.283	.077	.044	.155	.019	.060	.638
JULY	.283	.078	.044	.154	.019	.060	.638
AUGUST	.283	.079	.044	.155	.019	.060	.640
SEPTEMBER	.283	.080	.044	.155	.019	.060	.641
OCTOBER	.283	.080	.044	.154	.019	.060	.640
NOVEMBER	.283	.080	.044	.153	.019	.060	.639
DECEMBER	.283	.080	.044	.153	.019	.060	.639
	1961						
JANUARY	.305	.081	.044	.153	.019	.060	.662
FEBRUARY	.305	.081	.044	.153	.019	.060	.662
MARCH	.305	.081	.044	.153	.019	.060	.662
APRIL	.305	.079	.046	.154	.019	.060	.663
MAY	.305	.078	.046	.154	.019	.060	.662
JUNE	.305	.079	.046	.154	.019	.060	.663
JULY	.305	.079	.046	.154	.019	.060	.663
AUGUST	.305	.079	.046	.155	.019	.060	.664
SEPTEMBER	.305	.078	.046	.155	.019	.060	.663
OCTOBER	.305	.078	.046	.154	.019	.060	.662
NOVEMBER	.305	.078	.046	.153	.019	.060	.661
DECEMBER	.305	.079	.046	.154	.019	.060	.663

Continued on next page

Table 11—Ice Cream Mix and Nonfat Dry Milk, *concluded*

*Calculation of constants used to adjust 1950-1961 cost figures for ice cream mix-nonfat dry milk:

Labor = $\frac{\text{Annual average labor costs, 1961}}{\text{Annual average labor index, 1961}} = \frac{.305}{164.3} = .1858$

Building = $\frac{\text{Annual average building costs, 1961}}{\text{Annual average index of construction and building costs, 1961}} = \frac{.045}{906} = .0050$

Equipment = $\frac{\text{Annual average equipment costs, 1961}}{\text{Annual average index of metal and metal products, 1961}} = \frac{.154}{152.9} = .1007$

Utilities = $\frac{\text{Annual average utility costs, 1961}}{\text{Annual average index of fuel, power, and lighting materials, 1961}} = \frac{.079}{115.0} = .0687$

Consumable supplies = $\frac{\text{Annual average consumable supplies costs, 1961}}{\text{Annual average of combined indexes for building costs, metal and metal products, and fuel, power, and lighting materials, 1961}} = \frac{.019}{391.3} = .0049$

Packaging supplies = $\frac{\text{Annual average packaging supplies costs, 1961}}{\text{Annual average index of wholesale prices, 1961}} = \frac{.060}{145.6} = .0413$

† Consumable supply costs include laboratory supplies, office supplies, cleaning supplies, and liability insurance.

Table 12. Costs of Processing 100 Pounds of Milk Into Ice Cream Mix and Condensed Skim Milk, by Months, California, 1950–1961*

Month	Labor	Utilities	Building	Equipment	Consumable† supply	Packaging supply ‡	Total processing cost
	dollars per hundredweight						
	1950						
January	.150	.047	.017	.087	.011		.312
February	.150	.047	.017	.088	.011		.313
March	.150	.047	.017	.088	.011		.313
April	.150	.046	.018	.088	.011		.313
May	.150	.047	.018	.089	.011		.315
June	.150	.047	.018	.091	.012		.318
July	.150	.048	.018	.091	.012		.319
August	.150	.048	.018	.093	.012		.321
September	.150	.048	.018	.095	.012		.323
October	.150	.048	.019	.097	.012		.326
November	.150	.049	.019	.099	.012		.329
December	.150	.048	.019	.102	.012		.331

See p. 87 for footnotes.

Continued on next page

Table 12—Ice Cream Mix and Condensed Skim Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1951						
JANUARY	.153	.049	.019	.104	.012		.337
FEBRUARY	.153	.050	.019	.104	.012		.338
MARCH	.153	.049	.019	.103	.012		.336
APRIL	.153	.049	.019	.103	.012		.336
MAY	.153	.049	.019	.103	.012		.336
JUNE	.153	.049	.019	.103	.012		.336
JULY	.153	.049	.019	.102	.012		.335
AUGUST	.153	.049	.019	.102	.012		.335
SEPTEMBER	.153	.049	.019	.102	.012		.335
OCTOBER	.153	.049	.019	.102	.012		.335
NOVEMBER	.153	.049	.019	.103	.012		.336
DECEMBER	.153	.050	.019	.103	.012		.337
	1952						
JANUARY	.161	.050	.019	.102	.012		.344
FEBRUARY	.161	.049	.019	.103	.012		.344
MARCH	.161	.050	.019	.103	.012		.345
APRIL	.161	.049	.020	.103	.013		.346
MAY	.161	.049	.020	.102	.013		.345
JUNE	.161	.049	.020	.101	.013		.344
JULY	.161	.049	.021	.102	.013		.346
AUGUST	.161	.049	.021	.104	.013		.348
SEPTEMBER	.161	.049	.021	.104	.013		.348
OCTOBER	.161	.049	.020	.104	.013		.347
NOVEMBER	.161	.049	.020	.104	.013		.347
DECEMBER	.161	.049	.020	.104	.013		.347
	1953						
JANUARY	.167	.050	.020	.104	.013		.354
FEBRUARY	.167	.050	.020	.104	.013		.354
MARCH	.167	.050	.020	.105	.013		.355
APRIL	.167	.050	.020	.105	.013		.355
MAY	.167	.049	.020	.105	.013		.354
JUNE	.167	.050	.020	.106	.013		.356
JULY	.167	.051	.021	.108	.014		.361
AUGUST	.167	.051	.021	.108	.014		.361
SEPTEMBER	.167	.051	.021	.108	.013		.360
OCTOBER	.167	.051	.022	.107	.014		.361
NOVEMBER	.167	.051	.022	.107	.014		.361
DECEMBER	.167	.051	.022	.107	.014		.361

Continued on next page

Table 12—Ice Cream Mix and Condensed Skim Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY‡	TOTAL PROCESSING COST
	dollars per hundredweight						
	1954						
JANUARY	.171	.051	.022	.106	.014		.364
FEBRUARY	.171	.051	.022	.106	.014		.364
MARCH	.171	.050	.022	.106	.014		.363
APRIL	.171	.050	.022	.106	.014		.363
MAY	.171	.050	.022	.106	.014		.363
JUNE	.171	.050	.022	.106	.014		.363
JULY	.171	.049	.023	.107	.014		.364
AUGUST	.171	.049	.023	.108	.014		.365
SEPTEMBER	.171	.049	.023	.108	.014		.365
OCTOBER	.171	.049	.023	.109	.014		.366
NOVEMBER	.171	.050	.023	.109	.014		.367
DECEMBER	.171	.050	.023	.109	.014		.367
	1955						
JANUARY	.178	.050	.024	.109	.015		.376
FEBRUARY	.178	.050	.024	.110	.015		.377
MARCH	.178	.050	.024	.110	.015		.377
APRIL	.178	.050	.024	.111	.015		.378
MAY	.178	.049	.024	.111	.015		.377
JUNE	.178	.049	.024	.111	.015		.377
JULY	.178	.049	.025	.114	.015		.381
AUGUST	.178	.049	.025	.117	.015		.384
SEPTEMBER	.178	.050	.025	.119	.015		.387
OCTOBER	.178	.050	.025	.119	.015		.387
NOVEMBER	.178	.050	.025	.120	.015		.388
DECEMBER	.178	.050	.025	.120	.015		.388
	1956						
JANUARY	.182	.051	.025	.121	.016		.395
FEBRUARY	.182	.051	.025	.121	.016		.395
MARCH	.182	.051	.025	.123	.016		.397
APRIL	.182	.051	.026	.124	.016		.399
MAY	.182	.051	.026	.123	.016		.398
JUNE	.182	.051	.026	.122	.016		.397
JULY	.182	.051	.026	.121	.016		.396
AUGUST	.182	.051	.026	.126	.016		.401
SEPTEMBER	.182	.051	.026	.127	.016		.402
OCTOBER	.182	.051	.026	.127	.016		.402
NOVEMBER	.182	.051	.026	.127	.016		.402
DECEMBER	.182	.053	.026	.127	.016		.404

Continued on next page

Table 12—Ice Cream Mix and Condensed Skim Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT†	CONSUMABLE† SUPPLY	PACKAGING SUPPLY‡	TOTAL PROCESSING COST
	dollars per hundredweight						
	1957						
JANUARY	.188	.054	.026	.127	.016		.411
FEBRUARY	.188	.055	.026	.127	.016		.412
MARCH	.188	.055	.026	.126	.016		.411
APRIL	.188	.055	.027	.126	.017		.413
MAY	.188	.055	.027	.126	.017		.413
JUNE	.188	.054	.027	.126	.017		.412
JULY	.188	.054	.027	.128	.017		.414
AUGUST	.188	.054	.027	.128	.017		.414
SEPTEMBER	.188	.054	.027	.127	.017		.413
OCTOBER	.188	.053	.027	.126	.017		.411
NOVEMBER	.188	.053	.027	.126	.017		.411
DECEMBER	.188	.054	.027	.126	.017		.412
	1958						
JANUARY	.192	.054	.027	.126	.017		.416
FEBRUARY	.192	.052	.027	.126	.017		.414
MARCH	.192	.052	.027	.125	.017		.413
APRIL	.192	.051	.029	.124	.017		.413
MAY	.192	.051	.029	.124	.017		.413
JUNE	.192	.051	.029	.125	.017		.414
JULY	.192	.052	.030	.125	.018		.417
AUGUST	.192	.052	.030	.126	.018		.418
SEPTEMBER	.192	.053	.030	.127	.018		.420
OCTOBER	.192	.052	.029	.127	.018		.418
NOVEMBER	.192	.052	.029	.128	.018		.419
DECEMBER	.192	.052	.029	.128	.018		.419
	1959						
JANUARY	.214	.053	.029	.128	.018		.442
FEBRUARY	.214	.053	.029	.128	.018		.442
MARCH	.214	.053	.029	.129	.018		.443
APRIL	.214	.053	.030	.128	.018		.443
MAY	.214	.052	.030	.128	.018		.442
JUNE	.214	.051	.030	.128	.018		.441
JULY	.214	.051	.031	.128	.018		.442
AUGUST	.214	.052	.031	.128	.018		.443
SEPTEMBER	.214	.052	.031	.129	.018		.444
OCTOBER	.214	.051	.031	.129	.018		.443
NOVEMBER	.214	.051	.031	.130	.018		.444
DECEMBER	.214	.051	.031	.130	.018		.444

Continued on next page

Table 12—Ice Cream Mix and Condensed Skim Milk, *concluded*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY ‡	TOTAL PROCESSING COST
	dollars per hundredweight						
	1960						
JANUARY	.233	.052	.031	.130	.018		.464
FEBRUARY	.233	.052	.031	.130	.018		.464
MARCH	.233	.052	.031	.129	.018		.463
APRIL	.233	.052	.032	.129	.019		.465
MAY	.233	.051	.032	.129	.019		.464
JUNE	.233	.052	.032	.129	.019		.465
JULY	.233	.052	.031	.128	.019		.463
AUGUST	.233	.053	.031	.129	.019		.465
SEPTEMBER	.233	.054	.031	.128	.019		.465
OCTOBER	.233	.054	.032	.128	.019		.466
NOVEMBER	.233	.054	.032	.127	.019		.465
DECEMBER	.233	.054	.032	.127	.019		.465
	1961						
JANUARY	.251	.054	.032	.127	.019		.483
FEBRUARY	.251	.054	.032	.127	.019		.483
MARCH	.251	.054	.032	.128	.019		.484
APRIL	.251	.053	.033	.128	.019		.484
MAY	.251	.052	.033	.128	.019		.483
JUNE	.251	.053	.033	.128	.019		.484
JULY	.251	.053	.033	.128	.019		.484
AUGUST	.251	.053	.033	.129	.019		.485
SEPTEMBER	.251	.052	.033	.129	.019		.484
OCTOBER	.251	.052	.033	.128	.019		.483
NOVEMBER	.251	.053	.033	.128	.019		.484
DECEMBER	.251	.053	.033	.128	.019		.484

• Calculation of constants used to adjust 1950-1961 cost figures for ice cream mix-condensed skim milk:

Labor $= \frac{\text{Annual average labor costs, 1961}}{\text{Annual average labor index, 1961}} = \frac{.251}{164.3} = .1529$

Building $= \frac{\text{Annual average building costs, 1961}}{\text{Annual average index of construction and building costs, 1961}} = \frac{.033}{906} = .0036$

Equipment $= \frac{\text{Annual average equipment costs, 1961}}{\text{Annual average index of metal and metal products, 1961}} = \frac{.128}{152.9} = .0837$

Utilities $= \frac{\text{Annual average utility costs, 1961}}{\text{Annual average index of fuel, power, and lighting materials, 1961}} = \frac{.053}{115.0} = .0461$

Consumable supplies $= \frac{\text{Annual average consumable supplies costs, 1961}}{\text{Annual average of combined indexes for building costs, metal and metal products, and fuel, power, and lighting materials, 1961}} = \frac{.019}{391.3} = .0049$

† Consumable supply costs include laboratory supplies, office supplies, cleaning supplies, and liability insurance.

‡ Blanks mean no packaging costs incurred in this plant.

Table 13. Costs of Processing 100 Pounds of Milk Into Ice Cream Mix and Cottage Cheese, by Months, California, 1950–1961*

Month	Labor	Utilities	Building	Equipment	Consumable† supply	Packaging supply	Total processing cost
	dollars per hundredweight						
	1950						
January	.234	.023	.020	.100	.011		.388
February	.234	.023	.020	.100	.011		.388
March	.234	.023	.020	.100	.011		.388
April	.234	.023	.020	.101	.011		.389
May	.234	.023	.020	.102	.011		.390
June	.234	.024	.020	.104	.012		.394
July	.234	.024	.021	.104	.012		.395
August	.234	.024	.021	.106	.012		.397
September	.234	.024	.021	.108	.012		.399
October	.234	.024	.021	.111	.012		.402
November	.234	.024	.021	.113	.012		.404
December	.234	.024	.021	.117	.012		.408
	1951						
January	.239	.024	.021	.119	.012		.415
February	.239	.025	.021	.118	.012		.415
March	.239	.025	.021	.118	.012		.415
April	.239	.024	.022	.118	.012		.415
May	.239	.024	.022	.118	.012		.415
June	.239	.024	.022	.117	.012		.414
July	.239	.024	.022	.117	.012		.414
August	.239	.024	.022	.117	.012		.414
September	.239	.025	.022	.117	.012		.415
October	.239	.025	.022	.117	.012		.415
November	.239	.025	.022	.117	.012		.415
December	.239	.025	.022	.117	.012		.415
	1952						
January	.251	.025	.022	.117	.012		.427
February	.251	.025	.022	.117	.012		.427
March	.251	.025	.022	.117	.012		.427
April	.251	.024	.023	.117	.013		.428
May	.251	.024	.023	.116	.013		.427
June	.251	.024	.023	.116	.013		.427
July	.251	.024	.023	.117	.013		.428
August	.251	.024	.023	.119	.013		.430
September	.251	.024	.023	.119	.013		.430
October	.251	.025	.023	.119	.013		.431
November	.251	.025	.023	.118	.013		.430
December	.251	.025	.023	.119	.013		.431

See p. 92 for footnotes.

Continued on next page

Table 13—Ice Cream Mix and Cottage Cheese, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1953						
JANUARY	.261	.025	.023	.119	.013		.441
FEBRUARY	.261	.025	.023	.119	.013		.441
MARCH	.261	.025	.023	.120	.013		.442
APRIL	.261	.025	.023	.120	.013		.442
MAY	.261	.025	.023	.120	.013		.442
JUNE	.261	.025	.023	.121	.013		.443
JULY	.261	.026	.024	.124	.014		.449
AUGUST	.261	.026	.024	.124	.014		.449
SEPTEMBER	.261	.026	.024	.123	.013		.447
OCTOBER	.261	.026	.025	.122	.014		.448
NOVEMBER	.261	.026	.025	.122	.014		.448
DECEMBER	.261	.026	.025	.122	.014		.448
	1954						
JANUARY	.268	.025	.025	.122	.014		.454
FEBRUARY	.268	.025	.025	.121	.014		.453
MARCH	.268	.025	.025	.121	.014		.453
APRIL	.268	.025	.025	.121	.014		.453
MAY	.268	.025	.025	.122	.014		.454
JUNE	.268	.025	.025	.122	.014		.454
JULY	.268	.024	.026	.122	.014		.454
AUGUST	.268	.025	.026	.123	.014		.456
SEPTEMBER	.268	.025	.026	.123	.014		.456
OCTOBER	.268	.025	.027	.124	.014		.458
NOVEMBER	.268	.025	.027	.124	.014		.458
DECEMBER	.268	.025	.027	.124	.014		.458
	1955						
JANUARY	.278	.025	.027	.124	.015		.469
FEBRUARY	.278	.025	.027	.126	.015		.471
MARCH	.278	.025	.027	.126	.015		.471
APRIL	.278	.025	.028	.127	.015		.473
MAY	.278	.025	.028	.127	.015		.473
JUNE	.278	.025	.028	.127	.015		.473
JULY	.278	.024	.028	.131	.015		.476
AUGUST	.278	.025	.028	.133	.015		.479
SEPTEMBER	.278	.025	.028	.136	.015		.482
OCTOBER	.278	.025	.028	.136	.015		.482
NOVEMBER	.278	.025	.028	.137	.015		.483
DECEMBER	.278	.025	.028	.138	.015		.484

Continued on next page

Table 13—Ice Cream Mix and Cottage Cheese, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1956						
JANUARY	.285	.026	.028	.139	.016		.494
FEBRUARY	.285	.026	.028	.139	.016		.494
MARCH	.285	.026	.028	.140	.016		.495
APRIL	.285	.025	.030	.141	.016		.497
MAY	.285	.025	.030	.140	.016		.496
JUNE	.285	.025	.030	.139	.016		.495
JULY	.285	.025	.030	.139	.016		.495
AUGUST	.285	.026	.030	.144	.016		.501
SEPTEMBER	.285	.026	.030	.145	.016		.502
OCTOBER	.285	.025	.030	.146	.016		.502
NOVEMBER	.285	.026	.030	.145	.016		.502
DECEMBER	.285	.026	.030	.146	.016		.503
	1957						
JANUARY	.294	.027	.030	.146	.016		.513
FEBRUARY	.294	.028	.030	.145	.016		.513
MARCH	.294	.027	.030	.144	.016		.511
APRIL	.294	.027	.031	.143	.017		.512
MAY	.294	.027	.031	.143	.017		.512
JUNE	.294	.027	.031	.144	.017		.513
JULY	.294	.027	.031	.146	.017		.515
AUGUST	.294	.027	.031	.146	.017		.515
SEPTEMBER	.294	.027	.031	.146	.017		.515
OCTOBER	.294	.027	.031	.144	.017		.513
NOVEMBER	.294	.027	.031	.144	.017		.513
DECEMBER	.294	.027	.031	.144	.017		.513
	1958						
JANUARY	.301	.027	.031	.143	.017		.519
FEBRUARY	.301	.026	.031	.143	.017		.518
MARCH	.301	.026	.031	.143	.017		.518
APRIL	.301	.026	.033	.142	.017		.519
MAY	.301	.025	.033	.142	.017		.518
JUNE	.301	.025	.033	.142	.017		.518
JULY	.301	.026	.034	.142	.018		.521
AUGUST	.301	.026	.034	.144	.018		.523
SEPTEMBER	.301	.026	.034	.145	.018		.524
OCTOBER	.301	.026	.033	.146	.018		.524
NOVEMBER	.301	.026	.033	.146	.018		.524
DECEMBER	.301	.026	.033	.146	.018		.524

Continued on next page

Table 13—Ice Cream Mix and Cottage Cheese, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1959						
JANUARY	.335	.026	.033	.146	.018		.558
FEBRUARY	.335	.026	.033	.147	.018		.559
MARCH	.335	.026	.033	.147	.018		.559
APRIL	.335	.026	.034	.146	.018		.559
MAY	.335	.026	.034	.146	.018		.559
JUNE	.335	.026	.034	.147	.018		.560
JULY	.335	.026	.035	.146	.018		.560
AUGUST	.335	.026	.035	.146	.018		.560
SEPTEMBER	.335	.026	.035	.147	.018		.561
OCTOBER	.335	.026	.035	.148	.018		.562
NOVEMBER	.335	.026	.035	.149	.018		.563
DECEMBER	.335	.026	.035	.148	.018		.562
	1960						
JANUARY	.364	.026	.035	.149	.018		.592
FEBRUARY	.364	.026	.035	.148	.018		.591
MARCH	.364	.026	.035	.148	.018		.591
APRIL	.364	.026	.036	.148	.019		.593
MAY	.364	.025	.036	.147	.019		.591
JUNE	.364	.026	.036	.147	.019		.592
JULY	.364	.026	.036	.147	.019		.592
AUGUST	.364	.027	.036	.147	.019		.593
SEPTEMBER	.364	.027	.036	.147	.019		.593
OCTOBER	.364	.027	.036	.146	.019		.592
NOVEMBER	.364	.027	.036	.146	.019		.592
DECEMBER	.364	.027	.036	.146	.019		.592
	1961						
JANUARY	.393	.027	.036	.146	.019		.621
FEBRUARY	.393	.027	.036	.146	.019		.621
MARCH	.393	.027	.036	.146	.019		.621
APRIL	.393	.026	.038	.146	.019		.622
MAY	.393	.026	.038	.146	.019		.622
JUNE	.393	.026	.038	.146	.019		.622
JULY	.393	.026	.038	.146	.019		.622
AUGUST	.393	.026	.038	.147	.019		.623
SEPTEMBER	.393	.026	.038	.147	.019		.623
OCTOBER	.393	.026	.037	.146	.019		.621
NOVEMBER	.393	.026	.037	.146	.019		.621
DECEMBER	.393	.026	.037	.146	.019		.621

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Table 13—Ice Cream Mix and Cottage Cheese, *concluded*

•Calculation of constants used to adjust 1950-1961 cost figures for ice cream mix-cottage cheese:

Labor = $\frac{\text{Annual average labor costs, 1961}}{\text{Annual average labor index, 1961}} = \frac{.393}{164.3} = .2391$

Building = $\frac{\text{Annual average building costs, 1961}}{\text{Annual average index of construction and building costs, 1961}} = \frac{.037}{906} = .0041$

Equipment = $\frac{\text{Annual average equipment costs, 1961}}{\text{Annual average index of metal and metal products, 1961}} = \frac{.146}{152.9} = .0956$

Utilities = $\frac{\text{Annual average utility costs, 1961}}{\text{Annual average index of fuel, power, and lighting materials, 1961}} = \frac{.026}{115.0} = .0230$

Consumable supplies = $\frac{\text{Annual average consumable supplies costs, 1961}}{\text{Annual average of combined indexes for building costs, metal and metal products, and fuel, power, and lighting materials, 1961}} = \frac{.019}{391.3} = .0049$

†Consumable supply costs include laboratory supplies, office supplies, cleaning supplies, and liability insurance.
‡Blanks mean no packaging costs incurred in this plant.

Table 14. Costs of Processing 100 Pounds of Milk Into Evaporated Milk, by Months, California, 1950–1961*

Month	Labor	Utilities	Building	Equipment	Consumable† supply	Packaging supply	Total processing cost
	dollars per hundredweight						
	1950						
January	.221	.046	.019	.072	.015	1.021	1.394
February	.221	.046	.019	.073	.015	1.021	1.395
March	.221	.046	.019	.073	.015	1.021	1.395
April	.221	.046	.020	.073	.015	1.021	1.396
May	.221	.046	.020	.074	.015	1.021	1.397
June	.221	.046	.020	.075	.016	1.021	1.399
July	.221	.047	.021	.076	.016	1.021	1.402
August	.221	.047	.021	.077	.016	1.021	1.403
September	.221	.047	.021	.079	.016	1.021	1.405
October	.221	.047	.021	.080	.016	1.021	1.406
November	.221	.048	.021	.082	.016	1.021	1.409
December	.221	.047	.021	.084	.016	1.021	1.410

See p. 96 for footnotes.

Continued on next page

Table 14—Evaporated Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1951						
JANUARY	.226	.048	.021	.086	.016	1.183	1.580
FEBRUARY	.226	.049	.021	.086	.016	1.183	1.581
MARCH	.226	.048	.021	.085	.016	1.183	1.579
APRIL	.226	.048	.021	.085	.017	1.183	1.580
MAY	.226	.048	.021	.085	.017	1.183	1.580
JUNE	.226	.048	.021	.085	.017	1.183	1.580
JULY	.226	.048	.021	.085	.017	1.183	1.580
AUGUST	.226	.048	.021	.085	.017	1.183	1.580
SEPTEMBER	.226	.048	.021	.085	.017	1.183	1.580
OCTOBER	.226	.048	.021	.085	.017	1.184	1.581
NOVEMBER	.226	.048	.021	.085	.017	1.184	1.581
DECEMBER	.226	.049	.021	.085	.017	1.184	1.582
	1952						
JANUARY	.237	.049	.021	.085	.017	1.184	1.593
FEBRUARY	.237	.048	.021	.085	.017	1.184	1.592
MARCH	.237	.049	.021	.085	.017	1.184	1.593
APRIL	.237	.048	.023	.085	.017	1.184	1.594
MAY	.237	.048	.023	.084	.017	1.184	1.593
JUNE	.237	.048	.023	.084	.017	1.184	1.593
JULY	.237	.048	.023	.084	.018	1.184	1.594
AUGUST	.237	.048	.023	.086	.018	1.218	1.630
SEPTEMBER	.237	.048	.023	.086	.018	1.218	1.630
OCTOBER	.237	.048	.022	.086	.017	1.218	1.628
NOVEMBER	.237	.048	.022	.086	.017	1.218	1.628
DECEMBER	.237	.048	.022	.086	.017	1.218	1.628
	1953						
JANUARY	.246	.049	.022	.086	.017	1.218	1.638
FEBRUARY	.246	.049	.022	.086	.017	1.218	1.638
MARCH	.246	.049	.022	.087	.017	1.218	1.639
APRIL	.246	.049	.022	.087	.017	1.218	1.639
MAY	.246	.048	.022	.087	.017	1.218	1.638
JUNE	.246	.048	.022	.088	.017	1.218	1.640
JULY	.246	.050	.023	.090	.018	1.218	1.645
AUGUST	.246	.050	.023	.090	.018	1.218	1.645
SEPTEMBER	.246	.050	.023	.089	.018	1.218	1.644
OCTOBER	.246	.050	.024	.089	.018	1.218	1.645
NOVEMBER	.246	.050	.024	.089	.018	1.218	1.645
DECEMBER	.246	.050	.024	.088	.018	1.218	1.644

Continued on next page

Table 14—Evaporated Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1954						
JANUARY	.253	.050	.024	.088	.018	1.202	1.635
FEBRUARY	.253	.050	.024	.087	.018	1.202	1.634
MARCH	.253	.049	.024	.088	.018	1.202	1.634
APRIL	.253	.049	.025	.088	.019	1.202	1.636
MAY	.253	.049	.025	.088	.019	1.202	1.636
JUNE	.253	.049	.025	.088	.019	1.202	1.636
JULY	.253	.048	.025	.089	.019	1.202	1.636
AUGUST	.253	.048	.025	.089	.019	1.202	1.636
SEPTEMBER	.253	.048	.025	.089	.019	1.202	1.636
OCTOBER	.253	.048	.026	.090	.019	1.219	1.655
NOVEMBER	.253	.049	.026	.090	.019	1.219	1.656
DECEMBER	.253	.049	.026	.090	.019	1.219	1.656
	1955						
JANUARY	.262	.049	.026	.090	.020	1.219	1.666
FEBRUARY	.262	.049	.026	.091	.020	1.219	1.667
MARCH	.262	.049	.026	.091	.020	1.219	1.667
APRIL	.262	.049	.027	.092	.020	1.219	1.669
MAY	.262	.048	.027	.092	.020	1.219	1.668
JUNE	.262	.048	.027	.092	.020	1.219	1.668
JULY	.262	.048	.028	.095	.021	1.219	1.673
AUGUST	.262	.048	.028	.097	.021	1.219	1.675
SEPTEMBER	.262	.049	.028	.098	.021	1.219	1.677
OCTOBER	.262	.049	.027	.099	.021	1.286	1.744
NOVEMBER	.262	.049	.027	.099	.021	1.286	1.744
DECEMBER	.262	.049	.027	.100	.021	1.286	1.745
	1956						
JANUARY	.269	.049	.028	.101	.021	1.286	1.755
FEBRUARY	.269	.048	.028	.101	.021	1.286	1.755
MARCH	.269	.049	.028	.102	.021	1.286	1.756
APRIL	.269	.048	.029	.102	.022	1.286	1.758
MAY	.269	.048	.029	.102	.022	1.353	1.825
JUNE	.269	.048	.029	.101	.022	1.353	1.824
JULY	.269	.048	.029	.100	.022	1.353	1.823
AUGUST	.269	.048	.029	.104	.022	1.353	1.827
SEPTEMBER	.269	.048	.029	.105	.022	1.353	1.828
OCTOBER	.269	.048	.029	.105	.022	1.353	1.828
NOVEMBER	.269	.048	.029	.105	.022	1.371	1.846
DECEMBER	.269	.048	.029	.106	.022	1.371	1.849

Continued on next page

Table 14—Evaporated Milk, *continued*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1957						
JANUARY	.278	.053	.029	.105	.022	1.371	1.858
FEBRUARY	.278	.054	.029	.105	.022	1.371	1.859
MARCH	.278	.054	.029	.105	.022	1.371	1.859
APRIL	.278	.054	.030	.104	.023	1.371	1.860
MAY	.278	.054	.030	.104	.023	1.430	1.919
JUNE	.278	.053	.030	.104	.023	1.430	1.918
JULY	.278	.053	.031	.106	.023	1.430	1.921
AUGUST	.278	.053	.031	.106	.023	1.430	1.921
SEPTEMBER	.278	.052	.031	.105	.023	1.430	1.919
OCTOBER	.278	.052	.030	.105	.023	1.430	1.918
NOVEMBER	.278	.052	.030	.104	.023	1.430	1.917
DECEMBER	.278	.053	.030	.104	.023	1.430	1.918
	1958						
JANUARY	.284	.052	.030	.104	.023	1.430	1.923
FEBRUARY	.284	.051	.030	.104	.022	1.430	1.921
MARCH	.284	.051	.030	.104	.022	1.430	1.921
APRIL	.284	.050	.032	.103	.023	1.430	1.922
MAY	.284	.050	.032	.103	.023	1.430	1.922
JUNE	.284	.050	.032	.103	.023	1.430	1.922
JULY	.284	.051	.033	.103	.024	1.430	1.925
AUGUST	.284	.051	.033	.105	.024	1.430	1.927
SEPTEMBER	.284	.052	.033	.105	.024	1.430	1.928
OCTOBER	.284	.051	.032	.105	.024	1.430	1.926
NOVEMBER	.284	.051	.032	.106	.024	1.483	1.980
DECEMBER	.284	.051	.032	.106	.024	1.483	1.980
	1959						
JANUARY	.316	.051	.033	.106	.024	1.483	2.013
FEBRUARY	.316	.052	.033	.106	.024	1.483	2.014
MARCH	.316	.052	.033	.106	.024	1.483	2.014
APRIL	.316	.052	.033	.106	.024	1.483	2.014
MAY	.316	.051	.033	.106	.024	1.483	2.013
JUNE	.316	.050	.033	.106	.024	1.483	2.012
JULY	.316	.050	.034	.106	.025	1.483	2.014
AUGUST	.316	.050	.034	.106	.025	1.483	2.015
SEPTEMBER	.316	.051	.034	.107	.025	1.483	2.016
OCTOBER	.316	.050	.034	.107	.025	1.483	2.015
NOVEMBER	.316	.050.	.034	.108	.025	1.483	2.016
DECEMBER	.316	.050	.034	.108	.025	1.483	2.016

Continued on next page

Table 14—Evaporated Milk, *concluded*

MONTH	LABOR	UTILITIES	BUILDING	EQUIPMENT	CONSUMABLE† SUPPLY	PACKAGING SUPPLY	TOTAL PROCESSING COST
	dollars per hundredweight						
	1960						
JANUARY	.344	.051	.034	.108	.025	1.483	2.045
FEBRUARY	.344	.051	.034	.108	.025	1.483	2.045
MARCH	.344	.051	.034	.107	.025	1.483	2.044
APRIL	.344	.051	.035	.107	.025	1.483	2.045
MAY	.344	.050	.035	.107	.025	1.483	2.044
JUNE	.344	.051	.035	.107	.025	1.483	2.045
JULY	.344	.051	.035	.106	.025	1.483	2.044
AUGUST	.344	.052	.035	.106	.025	1.483	2.045
SEPTEMBER	.344	.052	.035	.106	.025	1.483	2.045
OCTOBER	.344	.053	.035	.106	.025	1.483	2.046
NOVEMBER	.344	.052	.035	.106	.025	1.483	2.045
DECEMBER	.344	.053	.035	.105	.025	1.483	2.045
	1961						
JANUARY	.371	.053	.035	.105	.025	1.483	2.072
FEBRUARY	.371	.053	.035	.106	.025	1.483	2.073
MARCH	.371	.053	.035	.106	.025	1.483	2.073
APRIL	.371	.052	.037	.106	.026	1.483	2.075
MAY	.371	.051	.037	.106	.026	1.483	2.074
JUNE	.371	.052	.037	.106	.026	1.483	2.075
JULY	.371	.052	.037	.106	.026	1.483	2.075
AUGUST	.371	.052	.037	.106	.026	1.483	2.075
SEPTEMBER	.371	.051	.037	.107	.026	1.483	2.075
OCTOBER	.371	.051	.036	.106	.026	1.483	2.073
NOVEMBER	.371	.052	.036	.106	.026	1.483	2.074
DECEMBER	.371	.052	.036	.106	.026	1.483	2.074

*Calculation of constants used to adjust 1950-1961 cost figures for evaporated milk:

Labor = $\frac{\text{Annual average labor costs, 1961}}{\text{Annual average labor index, 1961}} = \frac{.371}{164.3} = .2258$

Building = $\frac{\text{Annual average building costs, 1961}}{\text{Annual average index of construction and building costs, 1961}} = \frac{.036}{906} = .0040$

Equipment = $\frac{\text{Annual average equipment costs, 1961}}{\text{Annual average index of metal and metal products, 1961}} = \frac{.106}{152.9} = .0693$

Utilities = $\frac{\text{Annual average utility costs, 1961}}{\text{Annual average index of fuel, power, and lighting materials, 1961}} = \frac{.052}{115.0} = .0452$

Consumable supplies = $\frac{\text{Annual average consumable supplies costs, 1961}}{\text{Annual average of combined indexes for building costs, metal and metal products, and fuel, power, and lighting materials, 1961}} = \frac{.026}{391.3} = .0066$

Packaging supplies = $\frac{\text{Annual average packaging supplies costs, 1961}}{\text{Annual average index of tinplate, electrolytic, hot dipped, 1961}} = \frac{1.483}{161.3} = .9194$

† Consumable supply costs include laboratory supplies, office supplies, cleaning supplies, and liability insurance.

TABLE 15. ADJUSTED AVERAGE PRICES PAID BY SAN JOAQUIN VALLEY CONDENSERIES FOR MILK FOR MANUFACTURING, BY MONTHS, CALIFORNIA, 1950–1962

MONTH	SAN JOAQUIN VALLEY 3.8 PER CENT PRICE	FAT TEST OF MILK USED FOR MANUFACTURING.*	ADJUSTED PRICE (RAW MILK COST)†
	dollars per hundredweight	*per cent*	*dollars per hundredweight*
	1950		
JANUARY	3.25	4.21	3.60
FEBRUARY	3.25	3.89	3.33
MARCH	3.23	3.66	3.11
APRIL	3.17	3.47	2.89
MAY	3.14	3.38	2.79
JUNE	3.10	3.41	2.78
JULY	3.10	3.44	2.81
AUGUST	3.17	3.52	2.93
SEPTEMBER	3.25	3.67	3.14
OCTOBER	3.42	3.89	3.50
NOVEMBER	3.50	4.01	3.69
DECEMBER	3.52	4.03	3.72
	1951		
JANUARY	3.76	4.15	4.11
FEBRUARY	3.82	3.94	3.96
MARCH	3.86	3.76	3.82
APRIL	3.94	3.53	3.66
MAY	4.02	3.47	3.59
JUNE	4.05	3.40	3.62
JULY	4.05	3.47	3.70
AUGUST	4.05	3.56	3.79
SEPTEMBER	4.05	3.74	3.99
OCTOBER	4.05	3.96	4.22
NOVEMBER	4.05	4.01	4.27
DECEMBER	4.17	4.17	4.58
	1952		
JANUARY	4.20	4.33	4.79
FEBRUARY	4.28	3.84	4.33
MARCH	4.46	3.73	4.38
APRIL	4.47	3.53	4.15
MAY	4.48	3.29	3.88
JUNE	4.38	3.35	3.86
JULY	4.48	3.37	3.97
AUGUST	4.51	3.46	4.11
SEPTEMBER	4.58	3.69	4.45
OCTOBER	4.58	3.79	4.57
NOVEMBER	4.58	4.04	4.87
DECEMBER	4.50	4.28	5.07

See p. 101 for footnotes.

Continued on next page

Table 15—Prices Paid, San Joaquin Valley Condenseries, for Milk, *cont.*

Month	San Joaquin Valley 3.8 per cent price	Fat test of milk used for manufacturing*	Adjusted price (raw milk cost)†
	dollars per hundredweight	*per cent*	*dollars per hundredweight*
	1953		
January	4.49	4.15	4.90
February	4.52	3.71	4.43
March	4.43	3.55	4.20
April	4.11	3.42	3.79
May	3.82	3.40	3.51
June	3.69	3.37	3.36
July	3.68	3.35	3.34
August	3.73	3.49	3.50
September	3.77	3.67	3.67
October	3.78	3.84	3.81
November	3.78	3.92	3.87
December	3.77	4.02	3.94
	1954		
January	3.65	4.05	3.83
February	3.57	3.86	3.61
March	3.43	3.69	3.35
April	3.27	3.51	3.08
May	3.16	3.35	2.87
June	3.14	3.33	2.83
July	3.16	3.36	2.87
August	3.21	3.49	3.01
September	3.27	3.69	3.20
October	3.33	3.81	3.34
November	3.41	3.93	3.50
December	3.41	4.09	3.60
	1955		
January	3.42	4.22	3.70
February	3.42	3.90	3.49
March	3.39	3.64	3.28
April	3.34	3.43	3.10
May	3.28	3.39	3.01
June	3.27	3.35	2.97
July	3.30	3.36	3.01
August	3.33	3.43	3.09
September	3.36	3.63	3.25
October	3.40	3.79	3.39
November	3.40	3.96	3.50
December	3.45	4.09	3.64

Continued on next page

Table 15—Prices Paid, San Joaquin Valley Condenseries, for Milk, *cont*.

Month	San Joaquin Valley 3.8 per cent price	Fat test of milk used for manufacturing*	Adjusted price (raw milk cost)†
	dollars per hundredweight	*per cent*	*dollars per hundredweight*
		1956	
January	3.45	4.08	3.63
February	3.45	3.91	3.52
March	3.41	3.56	3.25
April	3.36	3.45	3.13
May	3.35	3.33	3.06
June	3.35	3.24	2.99
July	3.35	3.30	3.02
August	3.40	3.42	3.15
September	3.50	3.60	3.36
October	3.60	3.83	3.62
November	3.65	4.02	3.80
December	3.70	4.06	3.89
		1957	
January	3.70	4.19	3.99
February	3.70	3.86	3.74
March	3.60	3.70	3.53
April	3.50	3.41	3.23
May	3.48	3.32	3.15
June	3.45	3.28	3.11
July	3.45	3.30	3.12
August	3.45	3.41	3.20
September	3.50	3.62	3.37
October	3.50	3.88	3.56
November	3.50	3.95	3.60
December	3.50	4.08	3.70
		1958	
January	3.49	4.14	3.72
February	3.48	3.96	3.59
March	3.45	3.84	3.48
April	3.34	3.71	3.28
May	3.25	3.28	2.91
June	3.25	3.24	2.89
July	3.25	3.29	2.92
August	3.25	3.34	2.95
September	3.31	3.57	3.16
October	3.40	3.73	3.35
November	3.45	3.87	3.50
December	3.45	3.97	3.56

Continued on next page

Table 15—Prices Paid, San Joaquin Valley Condenseries, for Milk, *cont*.

Month	San Joaquin Valley 3.8 per cent price	Fat test of milk used for manufacturing*	Adjusted price (raw milk cost)†
	dollars per hundredweight	*per cent*	*dollars per hundredweight*
	1959		
January	3.45	4.09	3.64
February	3.45	3.95	3.55
March	3.45	3.62	3.33
April	3.45	3.34	3.15
May	3.45	3.30	3.12
June	3.45	3.28	3.11
July	3.45	3.30	3.12
August	3.45	3.38	3.18
September	3.45	3.61	3.33
October	3.45	3.75	3.42
November	3.45	3.84	3.48
December	3.45	3.95	3.55
	1960		
January	3.45	4.15	3.68
February	3.45	3.90	3.52
March	3.40	3.64	3.30
April	3.35	3.34	3.05
May	3.30	3.31	2.98
June	3.30	3.26	2.95
July	3.30	3.30	2.98
August	3.30	3.38	3.03
September	3.37	3.57	3.22
October	3.45	3.76	3.42
November	3.45	3.98	3.57
December	3.45	4.07	3.63
	1961		
January	3.45	4.10	3.64
February	3.45	3.82	3.46
March	3.50	3.61	3.37
April	3.55	3.42	3.28
May	3.55	3.40	3.27
June	3.55	3.36	3.24
July	3.45	3.35	3.14
August	3.45	3.42	3.20
September	3.45	3.61	3.33
October	3.50	3.81	3.51
November	3.50	3.98	3.63
December	3.50	4.10	3.71

Continued on next page

Table 15—Prices Paid, San Joaquin Valley Condenseries, for Milk,

Month	San Joaquin Valley 3.8 per cent price	Fat test of milk used for manufacturing*	Adjusted price (raw milk cost)†
	dollars per hundredweight	*per cent*	*dollars per hundredweight*
	1962		
January	3.50	4.22	3.77
February	3.49	4.12	3.70
March	3.44	3.87	3.49
April	3.30	3.49	3.10
May	3.25	3.35	2.96
June	3.25	3.31	2.93
July	3.25	3.33	2.94
August	3.25	3.41	3.00

*Computed on the basis of the average of actual milk available for manufacture.

†Prices adjusted from 3.8 per cent fat basis to average fat test. Adjustment was required because product yields were calculated on the basis of the average fat test. Prices from January, 1950 through March, 1953, were adjusted by direct ratio; thereafter actual differentials, supplied by the California Bureau of Milk Stabilization, were used.

Source: Price data obtained in letter of May, 1963 from L. R. Walker, Milk Economist, California Bureau of Milk Stabilization.

Table 16. Partial Net Margins for Cream and Nonfat Dry Milk per 100 Pounds of Milk, by Months, California, 1950–1961

Month	Value of cream	Value of nonfat dry milk	Total value (column 1 plus column 2)	Raw milk cost*	Gross margin (column 3 minus column 4)	Processing cost†	Partial net margin (column 5 minus column 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1950						
January	3.45	1.06	4.51	3.60	.91	.45	.46
February	3.19	1.04	4.23	3.33	.90	.45	.45
March	2.86	1.04	3.90	3.11	.79	.45	.34
April	2.64	1.03	3.67	2.89	.78	.45	.33
May	2.56	1.03	3.59	2.79	.80	.45	.35
June	2.58	1.03	3.61	2.78	.83	.46	.38
July	2.67	1.03	3.70	2.81	.89	.46	.43
August	2.79	1.03	3.82	2.93	.89	.46	.43
September	3.08	1.04	4.12	3.14	.98	.47	.51
October	3.29	1.04	4.33	3.50	.83	.47	.36
November	3.43	1.05	4.48	3.69	.79	.48	.31
December	3.56	1.05	4.61	3.72	.89	.48	.41

See p. 105 for footnotes.

Continued on next page

Table 16—Partial Net Margins for Cream and Nonfat Dry Milk, *continued*

MONTH	VALUE OF CREAM	VALUE OF NONFAT DRY MILK	TOTAL VALUE (COLUMN 1 PLUS COLUMN 2)	RAW MILK COST*	GROSS MARGIN (COLUMN 3 MINUS COLUMN 4)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 5 MINUS COLUMN 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1951						
JANUARY	3.94	1.05	4.99	4.11	.88	.49	.39
FEBRUARY	3.74	1.05	4.79	3.96	.83	.49	.34
MARCH	3.43	1.25	4.68	3.82	.86	.49	.37
APRIL	3.20	1.24	4.44	3.66	.78	.49	.29
MAY	3.21	1.24	4.45	3.59	.86	.49	.37
JUNE	3.17	1.23	4.40	3.62	.78	.49	.29
JULY	3.12	1.24	4.36	3.70	.66	.49	.17
AUGUST	3.15	1.24	4.39	3.79	.60	.49	.11
SEPTEMBER	3.35	1.25	4.60	3.99	.61	.49	.12
OCTOBER	3.67	1.26	4.93	4.22	.71	.49	.22
NOVEMBER	3.89	1.26	5.15	4.27	.88	.49	.39
DECEMBER	4.29	1.26	5.55	4.58	.97	.49	.48
	1952						
JANUARY	4.56	1.27	5.83	4.79	1.04	.50	.54
FEBRUARY	4.31	1.25	5.56	4.33	1.23	.50	.73
MARCH	3.86	1.25	5.11	4.38	.73	.50	.23
APRIL	3.29	1.40	4.69	4.15	.54	.50	.04
MAY	3.05	1.39	4.44	3.88	.56	.50	.06
JUNE	3.09	1.40	4.49	3.86	.63	.50	.13
JULY	3.18	1.40	4.58	3.97	.61	.50	.11
AUGUST	3.40	1.40	4.80	4.11	.69	.50	.19
SEPTEMBER	3.61	1.41	5.02	4.45	.57	.50	.07
OCTOBER	3.66	1.42	5.08	4.57	.51	.50	.01
NOVEMBER	3.81	1.43	5.24	4.87	.37	.50	-.13
DECEMBER	3.90	1.44	5.34	5.07	.27	.50	-.23
	1953						
JANUARY	3.73	1.43	5.16	4.90	.26	.51	-.25
FEBRUARY	3.33	1.41	4.74	4.43	.31	.51	-.20
MARCH	3.18	1.41	4.59	4.20	.39	.52	-.13
APRIL	2.92	1.32	4.24	3.79	.45	.51	-.06
MAY	2.90	1.32	4.22	3.51	.71	.51	.21
JUNE	2.88	1.32	4.20	3.36	.84	.51	.33
JULY	2.86	1.31	4.17	3.34	.83	.52	.31
AUGUST	3.01	1.32	4.33	3.50	.83	.52	.31
SEPTEMBER	3.19	1.33	4.52	3.67	.85	.52	.33
OCTOBER	3.40	1.33	4.73	3.81	.92	.52	.40
NOVEMBER	3.45	1.34	4.79	3.87	.92	.52	.40
DECEMBER	3.47	1.34	4.81	3.94	.87	.52	.35

Continued on next page

Table 16—Partial Net Margins for Cream and Nonfat Dry Milk, *continued*

MONTH	VALUE OF CREAM	VALUE OF NONFAT DRY MILK	TOTAL VALUE (COLUMN 1 PLUS COLUMN 2)	RAW MILK COST*	GROSS MARGIN (COLUMN 3 MINUS COLUMN 4)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 5 MINUS COLUMN 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1954						
JANUARY	3.48	1.34	4.82	3.83	.99	.53	.46
FEBRUARY	3.31	1.34	4.65	3.61	1.04	.52	.52
MARCH	3.11	1.33	4.44	3.35	1.09	.52	.57
APRIL	2.66	1.24	3.90	3.08	.82	.52	.30
MAY	2.49	1.23	3.72	2.87	.85	.52	.33
JUNE	2.47	1.23	3.70	2.83	.87	.52	.35
JULY	2.52	1.23	3.75	2.87	.88	.52	.36
AUGUST	2.65	1.24	3.89	3.01	.88	.53	.35
SEPTEMBER	2.84	1.24	4.08	3.20	.88	.53	.35
OCTOBER	2.98	1.25	4.23	3.34	.89	.53	.36
NOVEMBER	3.09	1.27	4.36	3.50	.86	.53	.33
DECEMBER	3.25	1.27	4.52	3.60	.92	.53	.39
	1955						
JANUARY	3.31	1.28	4.59	3.70	.89	.54	.35
FEBRUARY	3.04	1.27	4.31	3.49	.82	.54	.28
MARCH	2.83	1.26	4.09	3.28	.81	.54	.27
APRIL	2.57	1.25	3.82	3.10	.72	.54	.18
MAY	2.54	1.25	3.79	3.01	.78	.54	.24
JUNE	2.54	1.24	3.78	2.97	.81	.54	.27
JULY	2.54	1.24	3.78	3.01	.77	.55	.22
AUGUST	2.61	1.25	3.86	3.09	.77	.55	.22
SEPTEMBER	2.83	1.26	4.09	3.25	.84	.55	.29
OCTOBER	2.95	1.26	4.21	3.39	.82	.55	.27
NOVEMBER	3.09	1.27	4.36	3.50	.86	.55	.31
DECEMBER	3.20	1.27	4.47	3.64	.83	.56	.27
	1956						
JANUARY	3.14	1.27	4.41	3.63	.78	.56	.22
FEBRUARY	3.08	1.27	4.35	3.52	.83	.57	.26
MARCH	2.78	1.25	4.03	3.25	.78	.57	.21
APRIL	2.70	1.25	3.95	3.13	.82	.57	.25
MAY	2.60	1.24	3.84	3.06	.78	.57	.21
JUNE	2.55	1.24	3.79	2.99	.80	.57	.23
JULY	2.60	1.24	3.84	3.02	.82	.57	.25
AUGUST	2.72	1.25	3.97	3.15	.82	.58	.24
SEPTEMBER	2.96	1.25	4.21	3.36	.85	.58	.27
OCTOBER	3.19	1.26	4.45	3.62	.83	.58	.25
NOVEMBER	3.39	1.27	4.66	3.80	.86	.58	.28
DECEMBER	3.34	1.27	4.61	3.89	.72	.58	.14

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Table 16—Partial Net Margins for Cream and Nonfat Dry Milk, *continued*

MONTH	VALUE OF CREAM	VALUE OF NONFAT DRY MILK	TOTAL VALUE (COLUMN 1 PLUS COLUMN 2)	RAW MILK COST*	GROSS MARGIN (COLUMN 3 MINUS COLUMN 4)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 5 MINUS COLUMN 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1957						
JANUARY	3.45	1.28	4.73	3.79	.74	.59	.15
FEBRUARY	3.17	1.27	4.44	3.74	.70	.59	.11
MARCH	2.93	1.26	4.19	3.53	.66	.59	.07
APRIL	2.70	1.25	3.95	3.23	.72	.59	.13
MAY	2.61	1.24	3.85	3.15	.70	.59	.11
JUNE	2.56	1.24	3.80	3.11	.69	.59	.10
JULY	2.61	1.24	3.85	3.12	.73	.59	.14
AUGUST	2.70	1.25	3.95	3.20	.75	.59	.16
SEPTEMBER	2.96	1.25	4.21	3.37	.84	.59	.25
OCTOBER	3.19	1.27	4.46	3.56	.90	.59	.31
NOVEMBER	3.24	1.27	4.51	3.60	.91	.59	.32
DECEMBER	3.34	1.27	4.61	3.70	.91	.59	.32
	1958						
JANUARY	3.34	1.28	4.62	3.72	.90	.60	.30
FEBRUARY	3.18	1.27	4.45	3.59	.86	.59	.27
MARCH	3.02	1.26	4.28	3.48	.80	.59	.21
APRIL	2.81	1.11	3.92	3.28	.64	.59	.05
MAY	2.47	1.10	3.57	2.91	.66	.59	.07
JUNE	2.45	1.10	3.55	2.89	.66	.59	.07
JULY	2.50	1.10	3.60	2.92	.68	.59	.09
AUGUST	2.53	1.10	3.63	2.95	.68	.60	.08
SEPTEMBER	2.80	1.11	3.81	3.16	.65	.60	.05
OCTOBER	2.93	1.11	4.04	3.35	.69	.60	.09
NOVEMBER	3.04	1.12	4.16	3.50	.66	.60	.06
DECEMBER	3.18	1.12	4.30	3.56	.76	.60	.14
	1959						
JANUARY	3.27	1.13	4.40	3.64	.76	.62	.14
FEBRUARY	3.10	1.12	4.22	3.55	.67	.63	.04
MARCH	2.83	1.11	3.94	3.33	.61	.63	-.02
APRIL	2.60	1.10	3.70	3.15	.55	.63	-.08
MAY	2.58	1.10	3.68	3.12	.56	.63	-.07
JUNE	2.55	1.10	3.65	3.11	.54	.62	-.08
JULY	2.57	1.10	3.67	3.12	.55	.63	-.08
AUGUST	2.66	1.10	3.76	3.18	.58	.63	-.05
SEPTEMBER	2.98	1.11	4.09	3.33	.76	.63	.13
OCTOBER	3.08	1.11	4.19	3.42	.77	.63	.14
NOVEMBER	3.20	1.12	4.32	3.48	.84	.63	.21
DECEMBER	3.23	1.12	4.35	3.55	.80	.63	.17

Continued on next page

Table 16—Partial Net Margins for Cream and Nonfat Dry Milk, *concluded*

MONTH	VALUE OF CREAM	VALUE OF NONFAT DRY MILK	TOTAL VALUE (COLUMN 1 PLUS COLUMN 2)	RAW MILK COST*	GROSS MARGIN (COLUMN 3 MINUS COLUMN 4)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 5 MINUS COLUMN 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1960						
JANUARY	3.33	1.13	4.46	3.68	.78	.65	.13
FEBRUARY	3.12	1.12	4.24	3.52	.72	.65	.07
MARCH	2.91	1.11	4.02	3.30	.72	.65	.07
APRIL	2.66	1.10	3.76	3.05	.71	.65	.06
MAY	2.66	1.10	3.76	2.98	.78	.65	.13
JUNE	2.60	1.10	3.70	2.95	.75	.65	.10
JULY	2.63	1.10	3.73	2.98	.75	.65	.10
AUGUST	2.70	1.10	3.80	3.03	.77	.66	.11
SEPTEMBER	2.93	1.15	4.08	3.22	.86	.66	.20
OCTOBER	3.12	1.16	4.28	3.42	.86	.66	.20
NOVEMBER	3.31	1.16	4.47	3.57	.90	.66	.24
DECEMBER	3.36	1.17	4.53	3.63	.90	.66	.24
	1961						
JANUARY	3.39	1.17	4.56	3.64	.92	.68	.24
FEBRUARY	3.15	1.16	4.31	3.46	.85	.68	.17
MARCH	2.97	1.32	4.29	3.37	.92	.68	.24
APRIL	2.81	1.31	4.12	3.28	.84	.68	.16
MAY	2.81	1.31	4.12	3.27	.85	.68	.17
JUNE	2.76	1.31	4.07	3.24	.83	.68	.15
JULY	2.75	1.35	4.10	3.14	.96	.68	.28
AUGUST	2.81	1.35	4.16	3.20	.96	.68	.28
SEPTEMBER	2.97	1.36	4.33	3.33	1.00	.68	.32
OCTOBER	3.14	1.37	4.51	3.51	1.00	.68	.32
NOVEMBER	3.29	1.37	4.66	3.63	1.03	.68	.35
DECEMBER	3.39	1.38	4.77	3.71	1.06	.68	.38

*From table 15.

†From table 5.

Table 17. Partial Net Margins for Cream and Condensed Skim Milk per 100 Pounds of Milk, by Months, California, 1956–1961

Month	Value of cream	Value of condensed skim milk	Total value (column 1 plus column 2)	Raw milk cost*	Gross margin (column 3 minus column 4)	Processing cost†	Partial net margin (column 5 minus column 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1956						
January	3.14	1.31	4.45	3.63	.82	.38	.44
February	3.08	1.30	4.38	3.52	.86	.38	.48
March	2.78	1.29	4.07	3.25	.82	.39	.43
April	2.70	1.28	3.98	3.13	.85	.39	.46
May	2.60	1.28	3.88	3.06	.82	.39	.43
June	2.55	1.28	3.83	2.99	.84	.39	.45
July	2.60	1.28	3.88	3.02	.86	.38	.48
August	2.72	1.28	4.00	3.15	.85	.39	.46
September	2.96	1.29	4.25	3.36	.89	.39	.50
October	3.19	1.30	4.49	3.62	.87	.39	.48
November	3.39	1.31	4.70	3.80	.90	.39	.51
December	3.34	1.31	4.65	3.89	.76	.39	.37
	1957						
January	3.45	1.32	4.77	3.99	.78	.40	.38
February	3.17	1.30	4.47	3.74	.73	.40	.33
March	2.93	1.29	4.22	3.53	.69	.40	.29
April	2.70	1.28	3.98	3.23	.75	.40	.35
May	2.61	1.28	3.89	3.15	.74	.40	.34
June	2.56	1.28	3.84	3.11	.73	.40	.33
July	2.61	1.28	3.89	3.12	.77	.40	.37
August	2.70	1.28	3.98	3.20	.78	.40	.38
September	2.96	1.29	4.25	3.37	.88	.40	.48
October	3.19	1.30	4.49	3.56	.93	.40	.53
November	3.24	1.31	4.55	3.60	.95	.40	.55
December	3.34	1.31	4.65	3.70	.95	.40	.55
	1958						
January	3.34	1.31	4.65	3.72	.93	.41	.52
February	3.18	1.31	4.49	3.59	.90	.40	.50
March	3.02	1.30	4.32	3.48	.84	.40	.44
April	2.81	1.18	3.99	3.28	.71	.40	.31
May	2.47	1.16	3.63	2.91	.72	.40	.32
June	2.45	1.16	3.61	2.89	.72	.40	.32
July	2.50	1.16	3.66	2.92	.74	.40	.34
August	2.53	1.17	3.70	2.95	.75	.41	.34
September	2.80	1.18	3.98	3.16	.82	.41	.41
October	2.93	1.18	4.11	3.35	.76	.41	.35
November	3.04	1.19	4.23	3.50	.73	.41	.32
December	3.18	1.19	4.37	3.56	.81	.41	.40

See p. 107 for footnotes.

Continued on next page

Table 17—Partial Net Margins for Cream and Condensed Skim Milk, *concluded*

MONTH	VALUE OF CREAM	VALUE OF CONDENSED SKIM MILK	TOTAL VALUE (COLUMN 1 PLUS COLUMN 2)	RAW MILK COST*	GROSS MARGIN (COLUMN 3 MINUS COLUMN 4)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 5 MINUS COLUMN 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1959						
JANUARY	3.27	1.20	4.47	3.64	.83	.43	.40
FEBRUARY	3.10	1.19	4.29	3.55	.74	.43	.31
MARCH	2.83	1.18	4.01	3.33	.68	.43	.25
APRIL	2.60	1.17	3.77	3.15	.62	.43	.19
MAY	2.58	1.17	3.75	3.12	.63	.43	.20
JUNE	2.55	1.16	3.71	3.11	.60	.43	.17
JULY	2.57	1.17	3.74	3.12	.62	.43	.19
AUGUST	2.66	1.17	3.83	3.18	.65	.43	.22
SEPTEMBER	2.98	1.18	4.16	3.33	.83	.43	.40
OCTOBER	3.08	1.18	4.26	3.42	.84	.43	.41
NOVEMBER	3.20	1.19	4.39	3.48	.91	.43	.48
DECEMBER	3.23	1.19	4.42	3.55	.87	.43	.44
	1960						
JANUARY	3.33	1.20	4.53	3.68	.85	.45	.40
FEBRUARY	3.12	1.19	4.31	3.52	.79	.45	.34
MARCH	2.91	1.13	4.04	3.30	.74	.45	.29
APRIL	2.66	1.12	3.78	3.05	.73	.45	.28
MAY	2.66	1.12	3.78	2.98	.80	.45	.35
JUNE	2.60	1.12	3.72	2.95	.77	.45	.32
JULY	2.63	1.12	3.75	2.98	.77	.45	.32
AUGUST	2.70	1.12	3.82	3.03	.79	.45	.34
SEPTEMBER	2.93	1.16	4.08	3.22	.86	.45	.41
OCTOBER	3.12	1.17	4.28	3.42	.86	.45	.41
NOVEMBER	3.31	1.18	4.49	3.57	.92	.45	.47
DECEMBER	3.36	1.18	4.54	3.63	.91	.45	.46
	1961						
JANUARY	3.39	1.18	4.57	3.64	.93	.47	.46
FEBRUARY	3.15	1.17	4.32	3.46	.86	.47	.39
MARCH	2.97	1.29	4.26	3.37	.89	.47	.42
APRIL	2.81	1.29	4.10	3.28	.82	.47	.35
MAY	2.81	1.28	4.09	3.27	.82	.47	.35
JUNE	2.76	1.28	4.04	3.24	.80	.47	.33
JULY	2.75	1.32	4.07	3.14	.93	.47	.46
AUGUST	2.81	1.32	4.13	3.20	.93	.47	.46
SEPTEMBER	2.97	1.33	4.30	3.33	.97	.47	.50
OCTOBER	3.14	1.34	4.48	3.51	.97	.47	.50
NOVEMBER	3.29	1.34	4.63	3.63	1.00	.47	.53
DECEMBER	3.39	1.35	4.74	3.71	1.03	.47	.56

*From table 15.

†From table 6.

Table 18. Partial Net Margins for Butter and Nonfat Dry Milk per 100 Pounds of Milk, by Months, California, 1950–1961

Month	Value of butter	Value of nonfat dry milk	Total value (column 1 plus column 2)	Raw milk cost*	Gross margin (column 3 minus column 4)	Processing cost†	Partial net margin (column 5 minus column 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1950						
January	3.13	1.06	4.19	3.60	.59	.48	.11
February	2.94	1.04	3.98	3.33	.65	.48	.17
March	2.64	1.04	3.68	3.11	.57	.48	.09
April	2.46	1.03	3.49	2.89	.60	.48	.12
May	2.39	1.03	3.42	2.79	.63	.48	.15
June	2.42	1.03	3.45	2.78	.67	.49	.18
July	2.48	1.03	3.51	2.81	.70	.49	.21
August	2.60	1.03	3.63	2.93	.70	.49	.21
September	2.79	1.04	3.83	3.14	.69	.50	.19
October	3.00	1.04	4.04	3.50	.54	.50	.04
November	3.12	1.05	4.17	3.69	.48	.51	-.03
December	3.22	1.05	4.27	3.72	.55	.51	.04
	1951						
January	3.60	1.05	4.65	4.11	.54	.52	.02
February	3.41	1.05	4.46	3.96	.50	.52	-.02
March	3.16	1.25	4.41	3.82	.59	.52	.07
April	2.93	1.24	4.17	3.66	.51	.52	-.01
May	2.94	1.24	4.18	3.59	.59	.52	.07
June	2.90	1.23	4.13	3.62	.51	.52	-.01
July	2.86	1.24	4.10	3.70	.40	.52	-.12
August	2.88	1.24	4.12	3.79	.33	.52	-.19
September	3.06	1.25	4.31	3.99	.32	.52	-.20
October	3.35	1.26	4.61	4.22	.39	.52	-.13
November	3.53	1.26	4.79	4.27	.52	.52	0
December	3.81	1.26	5.07	4.58	.49	.52	-.03
	1952						
January	4.16	1.27	5.43	4.79	.64	.53	.11
February	3.94	1.25	5.19	4.33	.86	.54	.32
March	3.53	1.25	4.78	4.38	.40	.54	-.14
April	3.02	1.40	4.42	4.15	.27	.54	-.27
May	2.77	1.39	4.16	3.88	.28	.54	-.26
June	2.83	1.40	4.23	3.86	.37	.54	-.17
July	2.95	1.40	4.35	3.97	.38	.54	-.16
August	3.10	1.40	4.50	4.11	.39	.54	-.15
September	3.35	1.41	4.76	4.45	.31	.54	-.23
October	3.39	1.42	4.81	4.57	.24	.54	-.30
November	3.51	1.43	4.94	4.87	.07	.54	-.47
December	3.56	1.44	5.00	5.07	-.07	.54	-.61

See p. 111 for footnotes.

Continued on next page

Table 18—Partial Net Margins for Butter and Nonfat Dry Milk, *continued*

MONTH	VALUE OF BUTTER	VALUE OF NONFAT DRY MILK	TOTAL VALUE (COLUMN 1 PLUS COLUMN 2)	RAW MILK COST*	GROSS MARGIN (COLUMN 3 MINUS COLUMN 4)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 5 MINUS COLUMN 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1953						
JANUARY	3.40	1.43	4.83	4.90	-.07	.55	-.62
FEBRUARY	3.07	1.41	4.48	4.43	.05	.55	-.50
MARCH	2.94	1.41	4.35	4.20	.15	.55	-.40
APRIL	2.71	1.32	4.03	3.79	.24	.55	-.31
MAY	2.63	1.32	3.95	3.51	.44	.55	-.11
JUNE	2.63	1.32	3.95	3.36	.59	.55	.04
JULY	2.61	1.31	3.92	3.34	.58	.56	.02
AUGUST	2.74	1.32	4.06	3.50	.56	.56	0
SEPTEMBER	2.91	1.33	4.24	3.67	.57	.56	.01
OCTOBER	3.10	1.33	4.43	3.81	.62	.56	.06
NOVEMBER	3.16	1.34	4.50	3.87	.63	.56	.07
DECEMBER	3.17	1.34	4.51	3.94	.57	.56	.01
	1954						
JANUARY	3.18	1.34	4.52	3.83	.69	.56	.13
FEBRUARY	3.02	1.34	4.36	3.61	.75	.56	.19
MARCH	2.88	1.33	4.21	3.35	.86	.56	.30
APRIL	2.43	1.24	3.67	3.08	.59	.56	.03
MAY	2.25	1.23	3.48	2.87	.61	.56	.05
JUNE	2.24	1.23	3.47	2.83	.64	.56	.08
JULY	2.29	1.23	3.52	2.87	.65	.56	.09
AUGUST	2.40	1.24	3.64	3.01	.63	.56	.07
SEPTEMBER	2.56	1.24	3.80	3.20	.60	.56	.04
OCTOBER	2.71	1.25	3.96	3.34	.62	.56	.06
NOVEMBER	2.80	1.27	4.07	3.50	.57	.56	.01
DECEMBER	2.96	1.27	4.23	3.60	.63	.56	.07
	1955						
JANUARY	3.00	1.28	4.28	3.70	.58	.58	0
FEBRUARY	2.77	1.27	4.04	3.49	.55	.58	-.03
MARCH	2.56	1.26	3.82	3.28	.54	.58	-.04
APRIL	2.33	1.25	3.58	3.10	.48	.58	-.10
MAY	2.30	1.25	3.55	3.01	.54	.58	-.04
JUNE	2.30	1.24	3.54	2.97	.57	.58	-.01
JULY	2.31	1.24	3.55	3.01	.54	.58	-.04
AUGUST	2.36	1.25	3.61	3.09	.52	.59	-.07
SEPTEMBER	2.56	1.26	3.82	3.25	.57	.59	-.02
OCTOBER	2.68	1.26	3.94	3.39	.55	.59	-.04
NOVEMBER	2.80	1.27	4.07	3.50	.57	.59	-.02
DECEMBER	2.90	1.27	4.17	3.64	.53	.59	-.06

Continued on next page

Table 18—Partial Net Margins for Butter and Nonfat Dry Milk, *continued*

MONTH	VALUE OF BUTTER	VALUE OF NONFAT DRY MILK	TOTAL VALUE (COLUMN 1 PLUS COLUMN 2)	RAW MILK COST*	GROSS MARGIN (COLUMN 3 MINUS COLUMN 4)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 5 MINUS COLUMN 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1956						
JANUARY	2.84	1.27	4.11	3.63	.48	.60	-.12
FEBRUARY	2.84	1.27	4.11	3.52	.59	.60	-.01
MARCH	2.52	1.25	3.77	3.25	.52	.60	-.08
APRIL	2.45	1.25	3.70	3.13	.57	.61	-.04
MAY	2.34	1.24	3.58	3.06	.52	.61	-.09
JUNE	2.31	1.24	3.55	2.99	.56	.61	-.05
JULY	2.36	1.24	3.60	3.02	.58	.61	-.03
AUGUST	2.47	1.25	3.72	3.15	.57	.61	-.04
SEPTEMBER	2.68	1.25	3.93	3.36	.57	.62	-.05
OCTOBER	2.91	1.26	4.17	3.62	.55	.61	-.06
NOVEMBER	3.10	1.27	4.37	3.80	.57	.61	-.04
DECEMBER	3.04	1.27	4.31	3.89	.42	.62	-.20
	1957						
JANUARY	3.08	1.28	4.36	3.99	.37	.63	-.26
FEBRUARY	2.81	1.27	4.08	3.74	.34	.63	-.29
MARCH	2.68	1.26	3.94	3.53	.41	.63	-.22
APRIL	2.44	1.25	3.69	3.23	.46	.63	-.17
MAY	2.32	1.24	3.56	3.15	.41	.63	-.22
JUNE	2.31	1.24	3.55	3.11	.44	.63	-.19
JULY	2.38	1.24	3.62	3.12	.50	.63	-.13
AUGUST	2.49	1.25	3.74	3.20	.54	.63	-.09
SEPTEMBER	2.75	1.25	4.00	3.37	.63	.63	0
OCTOBER	2.94	1.27	4.21	3.56	.65	.63	.02
NOVEMBER	2.97	1.27	4.24	3.60	.64	.63	.01
DECEMBER	3.01	1.27	4.28	3.70	.58	.63	-.05
	1958						
JANUARY	2.96	1.28	4.23	3.72	.51	.64	-.13
FEBRUARY	2.81	1.27	4.08	3.59	.49	.64	-.15
MARCH	2.70	1.26	3.96	3.48	.48	.63	-.15
APRIL	2.57	1.11	3.68	3.28	.40	.63	-.23
MAY	2.24	1.10	3.34	2.91	.43	.63	-.20
JUNE	2.22	1.10	3.32	2.89	.43	.63	-.20
JULY	2.26	1.10	3.36	2.92	.44	.63	-.19
AUGUST	2.31	1.10	3.41	2.95	.46	.64	-.18
SEPTEMBER	2.59	1.11	3.70	3.16	.54	.64	-.10
OCTOBER	2.70	1.11	3.81	3.35	.46	.64	-.18
NOVEMBER	2.71	1.12	3.83	3.50	.33	.64	-.31
DECEMBER	2.88	1.12	4.00	3.56	.44	.64	-.20

Continued on next page

Table 18—Partial Net Margins for Butter and Nonfat Dry Milk, *concluded*

MONTH	VALUE OF BUTTER	VALUE OF NONFAT DRY MILK	TOTAL VALUE (COLUMN 1 PLUS COLUMN 2)	RAW MILK COST*	GROSS MARGIN (COLUMN 3 MINUS COLUMN 4)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 5 MINUS COLUMN 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1959						
JANUARY	2.86	1.13	3.99	3.64	.35	.67	-.32
FEBRUARY	2.76	1.12	3.88	3.55	.33	.67	-.34
MARCH	2.51	1.11	3.62	3.33	.29	.67	-.38
APRIL	2.30	1.10	3.40	3.15	.25	.67	-.42
MAY	2.28	1.10	3.38	3.12	.26	.67	-.41
JUNE	2.26	1.10	3.36	3.11	.25	.67	-.42
JULY	2.29	1.10	3.39	3.12	.27	.67	-.40
AUGUST	2.42	1.10	3.52	3.18	.34	.67	-.33
SEPTEMBER	2.71	1.11	3.82	3.33	.49	.67	-.18
OCTOBER	2.79	1.11	3.90	3.42	.48	.67	-.19
NOVEMBER	2.94	1.12	4.04	3.48	.56	.67	-.11
DECEMBER	2.93	1.12	4.06	3.55	.51	.67	-.16
	1960						
JANUARY	2.87	1.13	4.00	3.68	.32	.70	-.38
FEBRUARY	2.70	1.12	3.82	3.52	.30	.70	-.40
MARCH	2.52	1.11	3.63	3.30	.33	.70	-.37
APRIL	2.30	1.10	3.40	3.05	.35	.70	-.35
MAY	2.28	1.10	3.38	2.98	.40	.70	-.30
JUNE	2.25	1.10	3.35	2.95	.40	.70	-.30
JULY	2.28	1.10	3.38	2.98	.40	.70	-.30
AUGUST	2.36	1.10	3.46	3.03	.43	.70	-.27
SEPTEMBER	2.66	1.15	3.81	3.22	.59	.70	-.11
OCTOBER	2.74	1.16	3.90	3.42	.48	.70	-.22
NOVEMBER	2.94	1.16	4.10	3.57	.53	.70	-.17
DECEMBER	2.96	1.17	4.13	3.63	.50	.70	-.20
	1961						
JANUARY	2.97	1.17	4.14	3.64	.50	.73	-.23
FEBRUARY	2.75	1.16	3.91	3.46	.45	.73	-.28
MARCH	2.61	1.32	3.93	3.37	.56	.73	-.17
APRIL	2.45	1.31	3.76	3.28	.48	.73	-.25
MAY	2.44	1.31	3.75	3.27	.48	.72	-.24
JUNE	2.40	1.31	3.71	3.24	.47	.72	-.25
JULY	2.39	1.35	3.74	3.14	.60	.73	-.13
AUGUST	2.44	1.35	3.79	3.20	.59	.73	-.14
SEPTEMBER	2.59	1.36	3.95	3.33	.62	.73	-.11
OCTOBER	2.74	1.37	4.11	3.51	.60	.72	-.12
NOVEMBER	2.87	1.37	4.24	3.63	.61	.72	-.11
DECEMBER	2.96	1.38	4.34	3.71	.63	.73	-.10

* From table 15.

† From table 8.

Table 19. Partial Net Margins for Butter and Condensed Skim Milk per 100 Pounds of Milk, by Months, California, 1956–1961

Month	Value value of butter	Value of condensed skim milk	Total value (column 1 plus column 2)	Raw milk cost*	Gross margin (column 3 minus column 4)	Processing cost†	Partial net margin (column 5 minus column 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1956						
JANUARY	2.84	1.31	4.15	3.63	.52	.42	.10
FEBRUARY	2.84	1.30	4.14	3.52	.62	.42	.20
MARCH	2.52	1.29	3.81	3.25	.56	.42	.14
APRIL	2.45	1.28	3.73	3.13	.60	.43	.17
MAY	2.34	1.28	3.62	3.06	.56	.43	.13
JUNE	2.31	1.28	3.59	2.99	.60	.42	.18
JULY	2.36	1.28	3.64	3.02	.62	.42	.20
AUGUST	2.47	1.28	3.75	3.15	.60	.43	.17
SEPTEMBER	2.68	1.29	3.97	3.36	.61	.43	.18
OCTOBER	2.91	1.30	4.21	3.62	.59	.43	.16
NOVEMBER	3.10	1.31	4.41	3.80	.61	.43	.18
DECEMBER	3.04	1.31	4.35	3.89	.46	.43	.03
	1957						
JANUARY	3.08	1.32	4.40	3.99	.41	.44	-.03
FEBRUARY	2.81	1.30	4.11	3.74	.37	.44	-.07
MARCH	2.68	1.29	3.97	3.53	.44	.44	0
APRIL	2.44	1.28	3.72	3.23	.49	.44	.05
MAY	2.32	1.28	3.60	3.15	.45	.44	.01
JUNE	2.31	1.28	3.59	3.11	.48	.44	.04
JULY	2.38	1.28	3.66	3.12	.54	.44	.10
AUGUST	2.49	1.28	3.77	3.20	.57	.44	.13
SEPTEMBER	2.75	1.29	4.04	3.37	.67	.44	.23
OCTOBER	2.94	1.30	4.24	3.56	.68	.44	.24
NOVEMBER	2.97	1.31	4.28	3.60	.68	.44	.24
DECEMBER	3.01	1.31	4.32	3.70	.62	.44	.18
	1958						
JANUARY	2.95	1.31	4.26	3.72	.54	.45	.09
FEBRUARY	2.81	1.31	4.12	3.59	.53	.44	.09
MARCH	2.70	1.30	4.00	3.48	.52	.44	.08
APRIL	2.57	1.18	3.75	3.28	.47	.44	.03
MAY	2.24	1.16	3.40	2.91	.49	.44	.05
JUNE	2.22	1.16	3.38	2.89	.49	.44	.05
JULY	2.26	1.16	3.42	2.92	.50	.45	.05
AUGUST	2.31	1.17	3.48	2.95	.53	.45	.08
SEPTEMBER	2.59	1.18	3.77	3.16	.61	.45	.16
OCTOBER	2.70	1.18	3.88	3.35	.53	.45	.08
NOVEMBER	2.71	1.19	3.90	3.50	.40	.45	-.05
DECEMBER	2.88	1.19	4.07	3.56	.51	.45	.06

See p. 113 for footnotes.

Continued on next page

Table 19—Partial Net Margins for Butter and Condensed Skim Milk, *concluded*

MONTH	VALUE VALUE OF BUTTER	VALUE OF CONDENSED SKIM MILK	TOTAL VALUE (COLUMN 1 PLUS COLUMN 2)	RAW MILK COST*	GROSS MARGIN (COLUMN 3 MINUS COLUMN 4)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 5 MINUS COLUMN 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1959						
JANUARY	2.86	1.20	4.06	3.64	.42	.47	-.05
FEBRUARY	2.76	1.19	3.95	3.55	.40	.47	-.07
MARCH	2.51	1.18	3.69	3.33	.36	.48	-.12
APRIL	2.30	1.17	3.47	3.15	.32	.47	-.15
MAY	2.28	1.17	3.45	3.12	.33	.47	-.14
JUNE	2.26	1.16	3.42	3.11	.31	.47	-.16
JULY	2.29	1.17	3.46	3.12	.34	.47	-.13
AUGUST	2.42	1.17	3.59	3.18	.41	.47	-.06
SEPTEMBER	2.71	1.18	3.89	3.33	.56	.48	.08
OCTOBER	2.79	1.18	3.97	3.42	.55	.48	.07
NOVEMBER	2.92	1.19	4.11	3.48	.63	.48	.15
DECEMBER	2.94	1.19	4.13	3.55	.58	.48	.10
	1960						
JANUARY	2.87	1.20	4.07	3.68	.39	.50	-.11
FEBRUARY	2.70	1.19	3.89	3.52	.37	.50	-.13
MARCH	2.52	1.13	3.65	3.30	.35	.50	-.15
APRIL	2.30	1.12	3.42	3.05	.37	.50	-.13
MAY	2.28	1.12	3.40	2.98	.42	.50	-.08
JUNE	2.25	1.12	3.37	2.95	.42	.50	-.08
JULY	2.28	1.12	3.40	2.98	.42	.50	-.08
AUGUST	2.36	1.12	3.48	3.03	.45	.50	-.05
SEPTEMBER	2.66	1.16	3.82	3.22	.60	.50	.10
OCTOBER	2.74	1.17	3.91	3.42	.49	.50	-.01
NOVEMBER	2.94	1.18	4.12	3.57	.55	.50	.05
DECEMBER	2.96	1.18	4.14	3.63	.51	.50	.01
	1961						
JANUARY	2.97	1.18	4.15	3.64	.51	.52	-.01
FEBRUARY	2.75	1.17	3.92	3.46	.46	.52	-.06
MARCH	2.61	1.29	3.90	3.37	.53	.52	.01
APRIL	2.45	1.29	3.74	3.28	.46	.52	-.06
MAY	2.44	1.28	3.72	3.27	.45	.52	-.07
JUNE	2.40	1.28	3.68	3.24	.44	.52	-.08
JULY	2.39	1.32	3.71	3.14	.57	.52	.05
AUGUST	2.44	1.32	3.76	3.20	.56	.52	.04
SEPTEMBER	2.59	1.33	3.92	3.33	.59	.52	.07
OCTOBER	2.74	1.34	4.08	3.51	.57	.52	.05
NOVEMBER	2.87	1.34	4.21	3.63	.58	.52	.06
DECEMBER	2.96	1.35	4.31	3.71	.60	.52	.08

* From table 15.

† From table 9.

Table 20. Partial Net Margins for Ice Cream Mix and Nonfat Dry Milk per 100 Pounds of Milk, by Months, California, 1956–1961

Month	Value of ice cream mix	Value of nonfat dry milk	Total value (column 1 plus column 2)	Raw milk cost*	Gross margin (column 3 minus column 4)	Processing cost†	Partial net margin (column 5 minus column 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1956						
January	4.84	.83	5.67	3.63	2.04	.55	1.49
February	4.63	.85	5.48	3.52	1.96	.55	1.41
March	4.17	.87	5.04	3.25	1.79	.55	1.24
April	3.95	.88	4.83	3.13	1.70	.55	1.15
May	3.74	.89	4.63	3.06	1.57	.55	1.02
June	3.63	.90	4.53	2.99	1.54	.55	.99
July	3.69	.89	4.58	3.02	1.56	.55	1.01
August	3.83	.88	4.71	3.15	1.56	.56	1.00
September	4.22	.87	5.09	3.36	1.73	.56	1.17
October	4.63	.85	5.48	3.62	1.86	.56	1.30
November	4.87	.84	5.71	3.80	1.91	.56	1.35
December	4.92	.83	5.75	3.89	1.86	.56	1.30
	1957						
January	5.08	.83	5.91	3.99	1.92	.57	1.35
February	4.60	.85	5.45	3.74	1.71	.57	1.14
March	4.31	.86	5.17	3.53	1.64	.57	1.07
April	3.91	.88	4.79	3.23	1.56	.57	.99
May	3.77	.89	4.66	3.15	1.51	.57	.94
June	3.72	.89	4.61	3.11	1.50	.58	.92
July	3.75	.89	4.64	3.12	1.52	.58	.94
August	3.88	.88	4.76	3.20	1.56	.58	.98
September	4.22	.87	5.09	3.37	1.72	.58	1.14
October	4.53	.85	5.38	3.56	1.82	.57	1.25
November	4.61	.84	5.45	3.60	1.85	.57	1.28
December	4.76	.83	5.59	3.70	1.89	.57	1.32
	1958						
January	4.84	.83	5.67	3.72	1.95	.58	1.37
February	4.55	.84	5.39	3.59	1.80	.58	1.22
March	4.41	.85	5.26	3.48	1.78	.58	1.20
April	4.10	.76	4.86	3.28	1.58	.58	1.00
May	3.55	.79	4.34	2.91	1.43	.58	.85
June	3.51	.79	4.30	2.89	1.41	.58	.83
July	3.56	.79	4.35	2.92	1.43	.58	.85
August	3.62	.79	4.41	2.95	1.46	.58	.88
September	3.91	.77	4.68	3.16	1.52	.58	.94
October	4.25	.76	5.01	3.35	1.66	.58	1.08
November	4.45	.75	5.20	3.50	1.70	.58	1.12
December	4.57	.75	5.32	3.56	1.76	.58	1.18

See p. 115 for footnotes.

Continued on next page

Table 20—Partial Net Margins for Ice Cream Mix and Nonfat Dry Milk, *concluded*

MONTH	VALUE OF ICE CREAM MIX	VALUE OF NONFAT DRY MILK	TOTAL VALUE (COLUMN 1 PLUS COLUMN 2)	RAW MILK COST*	GROSS MARGIN (COLUMN 3 MINUS COLUMN 4)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 5 MINUS COLUMN 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1959						
JANUARY	4.71	.74	5.45	3.64	1.81	.61	1.20
FEBRUARY	4.54	.75	5.29	3.55	1.74	.61	1.13
MARCH	4.15	.77	4.92	3.33	1.59	.61	.98
APRIL	3.82	.79	4.61	3.15	1.46	.61	.85
MAY	3.77	.79	4.56	3.12	1.44	.61	.83
JUNE	3.75	.79	4.54	3.11	1.43	.61	.82
JULY	3.77	.79	4.56	3.12	1.44	.61	.83
AUGUST	3.87	.78	4.65	3.18	1.47	.61	.86
SEPTEMBER	4.17	.77	4.94	3.33	1.61	.61	1.00
OCTOBER	4.34	.76	5.10	3.42	1.68	.61	1.07
NOVEMBER	4.44	.75	5.19	3.48	1.71	.61	1.10
DECEMBER	4.58	.75	5.33	3.55	1.78	.61	1.17
	1960						
JANUARY	4.81	.73	5.54	3.68	1.86	.64	1.22
FEBRUARY	4.52	.75	5.27	3.52	1.75	.64	1.11
MARCH	4.15	.77	4.92	3.30	1.62	.64	.98
APRIL	3.73	.79	4.52	3.05	1.47	.64	.83
MAY	3.67	.79	4.46	2.98	1.48	.64	.84
JUNE	3.61	.79	4.40	2.95	1.45	.64	.81
JULY	3.66	.79	4.45	2.98	1.47	.64	.83
AUGUST	3.75	.78	4.53	3.03	1.50	.64	.86
SEPTEMBER	4.03	.80	4.83	3.22	1.61	.64	.97
OCTOBER	4.35	.79	5.14	3.42	1.72	.64	1.08
NOVEMBER	4.61	.77	5.38	3.57	1.81	.64	1.17
DECEMBER	4.72	.77	5.49	3.63	1.86	.64	1.22
	1961						
JANUARY	4.75	.76	5.51	3.64	1.87	.66	1.21
FEBRUARY	4.42	.78	5.20	3.46	1.74	.66	1.08
MARCH	4.30	.91	5.21	3.37	1.84	.66	1.18
APRIL	4.06	.93	4.99	3.28	1.71	.66	1.05
MAY	4.04	.93	4.97	3.27	1.70	.66	1.04
JUNE	3.90	.93	4.83	3.24	1.59	.66	.93
JULY	3.89	.96	4.85	3.14	1.71	.66	1.05
AUGUST	3.98	.95	4.93	3.20	1.73	.66	1.07
SEPTEMBER	4.26	.94	5.20	3.33	1.87	.66	1.21
OCTOBER	4.57	.92	5.49	3.51	1.98	.66	1.32
NOVEMBER	4.78	.91	5.69	3.63	2.06	.66	1.40
DECEMBER	4.93	.90	5.83	3.71	2.12	.66	1.46

* From table 15.

† From table 11.

TABLE 21. PARTIAL NET MARGINS FOR ICE CREAM MIX AND CONDENSED SKIM MILK PER 100 POUNDS OF MILK, BY MONTHS, CALIFORNIA, 1956–1961

MONTH	VALUE OF ICE CREAM MIX	VALUE OF CONDENSED SKIM MILK	TOTAL VALUE (COLUMN 1 PLUS COLUMN 2)	RAW MILK COST*	GROSS MARGIN (COLUMN 3 MINUS COLUMN 4)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 5 MINUS COLUMN 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1956						
JANUARY	4.84	.88	5.72	3.63	2.09	.40	1.69
FEBRUARY	4.63	.89	5.52	3.52	2.00	.40	1.60
MARCH	4.17	.92	5.09	3.25	1.84	.40	1.44
APRIL	3.95	.92	4.87	3.13	1.74	.40	1.34
MAY	3.74	.93	4.67	3.06	1.61	.40	1.21
JUNE	3.63	.94	4.57	2.99	1.58	.40	1.18
JULY	3.69	.94	4.63	3.02	1.61	.40	1.21
AUGUST	3.83	.93	4.76	3.15	1.61	.40	1.21
SEPTEMBER	4.22	.91	5.13	3.36	1.77	.40	1.37
OCTOBER	4.63	.89	5.52	3.62	1.90	.40	1.50
NOVEMBER	4.87	.88	5.75	3.80	1.95	.40	1.55
DECEMBER	4.92	.88	5.80	3.89	1.91	.40	1.51
	1957						
JANUARY	5.08	.87	5.95	3.99	1.96	.41	1.55
FEBRUARY	4.60	.89	5.49	3.74	1.75	.41	1.34
MARCH	4.31	.90	5.21	3.53	1.68	.41	1.27
APRIL	3.91	.93	4.84	3.23	1.61	.41	1.20
MAY	3.77	.93	4.70	3.15	1.55	.41	1.14
JUNE	3.72	.94	4.66	3.11	1.55	.41	1.14
JULY	3.75	.94	4.69	3.12	1.57	.41	1.16
AUGUST	3.88	.93	4.81	3.20	1.61	.41	1.20
SEPTEMBER	4.22	.91	5.13	3.37	1.76	.41	1.35
OCTOBER	4.53	.89	5.42	3.56	1.86	.41	1.45
NOVEMBER	4.61	.89	5.50	3.60	1.90	.41	1.49
DECEMBER	4.76	.88	5.64	3.70	1.94	.41	1.53
	1958						
JANUARY	4.84	.87	5.71	3.72	1.99	.42	1.57
FEBRUARY	4.55	.88	5.43	3.59	1.84	.41	1.43
MARCH	4.41	.89	5.30	3.48	1.82	.41	1.41
APRIL	4.10	.82	4.92	3.28	1.64	.41	1.23
MAY	3.55	.85	4.40	2.91	1.49	.41	1.08
JUNE	3.51	.86	4.37	2.89	1.48	.41	1.07
JULY	3.56	.85	4.41	2.92	1.49	.42	1.07
AUGUST	3.62	.85	4.47	2.95	1.52	.42	1.10
SEPTEMBER	3.91	.83	4.74	3.16	1.58	.42	1.16
OCTOBER	4.25	.82	5.07	3.35	1.72	.42	1.30
NOVEMBER	4.45	.81	5.26	3.50	1.76	.42	1.34
DECEMBER	4.57	.81	5.38	3.56	1.82	.42	1.40

See p. 117 for footnotes.

Continued on next page

Table 21—Partial Net Margins for Ice Cream Mix and Condensed Skim Milk, *concluded*

MONTH	VALUE OF ICE CREAM MIX	VALUE OF CONDENSED SKIM MILK	TOTAL VALUE (COLUMN 1 PLUS COLUMN 2)	RAW MILK COST*	GROSS MARGIN (COLUMN 3 MINUS COLUMN 4)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 5 MINUS COLUMN 6)
	1	2	3	4	5	6	7
	dollars per hundredweight						
	1959						
JANUARY	4.71	.80	5.51	3.64	1.87	.44	1.43
FEBRUARY	4.54	.81	5.35	3.55	1.80	.44	1.36
MARCH	4.15	.83	4.98	3.33	1.65	.44	1.21
APRIL	3.82	.85	4.67	3.15	1.52	.44	1.08
MAY	3.77	.85	4.62	3.12	1.50	.44	1.06
JUNE	3.75	.85	4.60	3.11	1.49	.44	1.05
JULY	3.77	.85	4.62	3.12	1.50	.44	1.06
AUGUST	3.87	.85	4.72	3.18	1.54	.44	1.10
SEPTEMBER	4.17	.83	5.00	3.33	1.67	.44	1.23
OCTOBER	4.34	.82	5.16	3.42	1.74	.44	1.30
NOVEMBER	4.44	.81	5.25	3.48	1.77	.44	1.33
DECEMBER	4.58	.81	5.39	3.55	1.84	.44	1.40
	1960						
JANUARY	4.81	.79	5.60	3.68	1.92	.46	1.46
FEBRUARY	4.52	.81	5.33	3.52	1.81	.46	1.35
MARCH	4.15	.80	4.95	3.30	1.65	.46	1.19
APRIL	3.73	.82	4.55	3.05	1.50	.46	1.04
MAY	3.67	.82	4.49	2.98	1.51	.46	1.05
JUNE	3.61	.82	4.43	2.95	1.48	.46	1.02
JULY	3.66	.82	4.48	2.98	1.50	.46	1.04
AUGUST	3.75	.81	4.56	3.03	1.53	.46	1.07
SEPTEMBER	4.03	.82	4.85	3.22	1.63	.46	1.17
OCTOBER	4.35	.81	5.16	3.42	1.74	.47	1.27
NOVEMBER	4.61	.80	5.41	3.57	1.84	.46	1.38
DECEMBER	4.72	.79	5.51	3.63	1.88	.46	1.42
	1961						
JANUARY	4.75	.79	5.54	3.64	1.90	.48	1.42
FEBRUARY	4.42	.81	5.23	3.46	1.77	.48	1.29
MARCH	4.30	.91	5.21	3.37	1.84	.48	1.36
APRIL	4.06	.93	4.99	3.28	1.71	.48	1.23
MAY	4.04	.93	4.97	3.27	1.70	.48	1.22
JUNE	3.90	.93	4.83	3.24	1.59	.48	1.11
JULY	3.89	.96	4.85	3.14	1.71	.48	1.23
AUGUST	3.98	.95	4.93	3.20	1.73	.48	1.25
SEPTEMBER	4.26	.94	5.20	3.33	1.87	.48	1.39
OCTOBER	4.57	.92	5.49	3.51	1.98	.48	1.50
NOVEMBER	4.78	.91	5.69	3.63	2.06	.48	1.58
DECEMBER	4.93	.90	5.83	3.71	2.12	.48	1.64

* From table 15.

† From table 12.

TABLE 22. PARTIAL NET MARGINS FOR EVAPORATED MILK PER 100 POUNDS OF MILK, BY MONTHS, CALIFORNIA, 1950–1961

MONTH	VALUE OF EVAPORATED MILK	RAW MILK COST*	GROSS MARGIN (COLUMN 1 MINUS COLUMN 2)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 3 MINUS COLUMN 4)
	1	2	3	4	5
	dollars per hundredweight				
	1950				
JANUARY	5.55	3.60	1.95	1.39	.56
FEBRUARY	5.50	3.33	2.17	1.40	.77
MARCH	5.45	3.11	2.34	1.40	.94
APRIL	5.40	2.89	2.51	1.40	1.11
MAY	5.40	2.79	2.61	1.40	1.21
JUNE	5.43	2.78	2.65	1.40	1.25
JULY	5.51	2.81	2.70	1.40	1.30
AUGUST	5.56	2.93	2.63	1.40	1.23
SEPTEMBER	5.56	3.14	2.42	1.40	1.02
OCTOBER	5.88	3.50	2.38	1.41	.97
NOVEMBER	5.94	3.69	2.25	1.41	.84
DECEMBER	6.07	3.72	2.35	1.41	.94
	1951				
JANUARY	6.63	4.11	2.52	1.58	.94
FEBRUARY	6.71	3.96	2.75	1.58	1.17
MARCH	6.71	3.82	2.89	1.58	1.31
APRIL	6.71	3.66	3.05	1.58	1.47
MAY	6.59	3.59	3.00	1.58	1.42
JUNE	6.59	3.62	2.97	1.58	1.39
JULY	6.53	3.70	2.83	1.58	1.25
AUGUST	6.45	3.79	2.66	1.58	1.08
SEPTEMBER	6.54	3.99	2.55	1.58	.97
OCTOBER	6.60	4.22	2.38	1.58	.80
NOVEMBER	6.66	4.27	2.39	1.58	.81
DECEMBER	6.75	4.58	2.17	1.58	.59
	1952				
JANUARY	6.92	4.79	2.13	1.59	.54
FEBRUARY	6.76	4.33	2.43	1.59	.84
MARCH	6.98	4.38	2.60	1.59	1.01
APRIL	6.98	4.15	2.83	1.59	1.24
MAY	6.91	3.88	3.03	1.59	1.44
JUNE	6.91	3.86	3.05	1.59	1.46
JULY	6.91	3.97	2.94	1.59	1.35
AUGUST	6.91	4.11	2.80	1.63	1.17
SEPTEMBER	6.98	4.45	2.53	1.63	.90
OCTOBER	7.04	4.57	2.47	1.63	.84
NOVEMBER	7.10	4.87	2.23	1.63	.60
DECEMBER	7.17	5.07	2.10	1.63	.47

See p. 121 for footnotes.

Continued on next page

Table 22—Partial Net Margins for Evaporated Milk, *continued*

MONTH	VALUE OF EVAPORATED MILK	RAW MILK COST*	GROSS MARGIN (COLUMN 1 MINUS COLUMN 2)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 3 MINUS COLUMN 4)
	1	2	3	4	5
	dollars per hundredweight				
	1953				
JANUARY	7.10	4.90	2.20	1.64	.56
FEBRUARY	6.98	4.43	2.55	1.64	.91
MARCH	6.91	4.20	2.71	1.64	1.07
APRIL	6.64	3.79	2.85	1.64	1.21
MAY	6.64	3.51	3.13	1.64	1.49
JUNE	6.51	3.36	3.15	1.64	1.51
JULY	6.37	3.34	3.03	1.64	1.39
AUGUST	6.37	3.50	2.87	1.64	1.23
SEPTEMBER	6.43	3.67	2.76	1.64	1.12
OCTOBER	6.49	3.81	2.68	1.64	1.04
NOVEMBER	6.49	3.87	2.62	1.64	.98
DECEMBER	6.34	3.94	2.40	1.64	.76
	1954				
JANUARY	6.27	3.83	2.44	1.64	.80
FEBRUARY	6.22	3.61	2.61	1.63	.98
MARCH	6.34	3.35	2.99	1.63	1.36
APRIL	6.10	3.08	3.02	1.64	1.38
MAY	6.10	2.87	3.23	1.64	1.59
JUNE	6.10	2.83	3.27	1.64	1.63
JULY	6.10	2.87	3.23	1.64	1.59
AUGUST	6.10	3.01	3.09	1.64	1.45
SEPTEMBER	6.16	3.20	2.96	1.64	1.32
OCTOBER	6.22	3.34	2.88	1.66	1.22
NOVEMBER	6.22	3.50	2.72	1.66	1.06
DECEMBER	6.27	3.60	2.67	1.66	1.01
	1955				
JANUARY	6.27	3.70	2.57	1.67	.90
FEBRUARY	6.22	3.49	2.73	1.67	1.06
MARCH	6.16	3.28	2.88	1.67	1.21
APRIL	6.10	3.10	3.00	1.67	1.33
MAY	6.10	3.01	3.09	1.67	1.42
JUNE	6.10	2.97	3.13	1.67	1.46
JULY	6.10	3.01	3.09	1.67	1.42
AUGUST	6.10	3.09	3.01	1.68	1.33
SEPTEMBER	6.16	3.25	2.91	1.68	1.23
OCTOBER	6.22	3.39	2.83	1.74	1.09
NOVEMBER	6.29	3.50	2.79	1.74	1.05
DECEMBER	6.44	3.64	2.80	1.74	1.06

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Table 22—Partial Net Margins for Evaporated Milk, *continued*

MONTH	VALUE OF EVAPORATED MILK	RAW MILK COST*	GROSS MARGIN (COLUMN 1 MINUS COLUMN 2)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 3 MINUS COLUMN 4)
	1	2	3	4	5
	dollars per hundredweight				
	1956				
JANUARY	6.44	3.63	2.81	1.76	1.05
FEBRUARY	6.38	3.52	2.86	1.76	1.10
MARCH	6.32	3.25	3.07	1.76	1.31
APRIL	6.26	3.13	3.13	1.76	1.37
MAY	6.26	3.06	3.20	1.82	1.38
JUNE	6.21	2.99	3.22	1.82	1.40
JULY	6.26	3.02	3.24	1.82	1.42
AUGUST	6.26	3.15	3.11	1.83	1.28
SEPTEMBER	6.32	3.36	2.96	1.83	1.13
OCTOBER	6.38	3.62	2.76	1.83	.93
NOVEMBER	6.44	3.80	2.64	1.85	.79
DECEMBER	6.56	3.89	2.67	1.85	.82
	1957				
JANUARY	6.60	3.99	2.61	1.86	.75
FEBRUARY	6.54	3.74	2.80	1.86	.94
MARCH	6.49	3.53	2.96	1.86	1.10
APRIL	6.43	3.23	3.20	1.86	1.34
MAY	6.43	3.15	3.28	1.92	1.36
JUNE	6.43	3.11	3.32	1.92	1.40
JULY	6.43	3.12	3.31	1.92	1.39
AUGUST	6.43	3.20	3.23	1.92	1.31
SEPTEMBER	6.49	3.37	3.12	1.92	1.20
OCTOBER	6.54	3.56	2.98	1.92	1.06
NOVEMBER	6.58	3.60	2.98	1.92	1.06
DECEMBER	6.77	3.70	3.07	1.92	1.15
	1958				
JANUARY	6.77	3.72	3.05	1.92	1.13
FEBRUARY	6.71	3.59	3.12	1.92	1.20
MARCH	6.71	3.48	3.23	1.92	1.31
APRIL	6.65	3.28	3.37	1.92	1.45
MAY	6.59	2.91	3.68	1.92	1.76
JUNE	6.53	2.89	3.64	1.92	1.72
JULY	6.59	2.92	3.62	1.92	1.70
AUGUST	6.59	2.95	3.64	1.93	1.71
SEPTEMBER	6.65	3.16	3.49	1.93	1.56
OCTOBER	6.65	3.35	3.30	1.93	1.37
NOVEMBER	6.71	3.50	3.21	1.98	1.23
DECEMBER	6.71	3.56	3.15	1.98	1.17

Continued on next page

Table 22—Partial Net Margins for Evaporated Milk, *concluded*

MONTH	VALUE OF EVAPORATED MILK	RAW MILK COST*	GROSS MARGIN (COLUMN 1 MINUS COLUMN 2)	PROCESSING COST†	PARTIAL NET MARGIN (COLUMN 3 MINUS COLUMN 4)
	1	2	3	4	5
	dollars per hundredweight				
	1959				
JANUARY	6.82	3.64	3.18	2.01	1.17
FEBRUARY	6.82	3.55	3.27	2.01	1.26
MARCH	6.76	3.33	3.43	2.01	1.42
APRIL	6.70	3.15	3.55	2.01	1.54
MAY	6.70	3.12	3.58	2.01	1.57
JUNE	6.70	3.11	3.59	2.01	1.58
JULY	6.70	3.12	3.58	2.01	1.57
AUGUST	6.70	3.18	3.52	2.02	1.50
SEPTEMBER	6.76	3.33	3.43	2.02	1.41
OCTOBER	6.78	3.42	3.36	2.02	1.34
NOVEMBER	6.82	3.48	3.34	2.02	1.32
DECEMBER	6.82	3.55	3.27	2.02	1.25
	1960				
JANUARY	6.88	3.68	3.20	2.04	1.16
FEBRUARY	6.82	3.52	3.30	2.04	1.26
MARCH	6.76	3.30	3.46	2.04	1.42
APRIL	6.70	3.05	3.65	2.04	1.61
MAY	6.70	2.98	3.72	2.04	1.68
JUNE	6.63	2.95	3.68	2.04	1.64
JULY	6.70	2.98	3.72	2.04	1.68
AUGUST	6.70	3.03	3.67	2.04	1.63
SEPTEMBER	6.76	3.22	3.54	2.04	1.50
OCTOBER	7.04	3.42	3.62	2.05	1.57
NOVEMBER	7.04	3.57	3.47	2.04	1.43
DECEMBER	7.10	3.63	3.47	2.04	1.43
	1961				
JANUARY	7.15	3.64	3.51	2.07	1.44
FEBRUARY	7.10	3.46	3.64	2.07	1.57
MARCH	7.03	3.37	3.66	2.07	1.59
APRIL	6.97	3.28	3.69	2.08	1.61
MAY	6.97	3.27	3.70	2.07	1.63
JUNE	6.97	3.24	3.73	2.08	1.65
JULY	6.97	3.14	3.83	2.08	1.75
AUGUST	6.52	3.20	3.32	2.08	1.24
SEPTEMBER	6.43	3.33	3.10	2.08	1.02
OCTOBER	6.49	3.51	2.98	2.07	.91
NOVEMBER	6.49	3.63	2.86	2.07	.79
DECEMBER	6.55	3.71	2.84	2.07	.77

*From table 15.

†From table 14.

TABLE 23. COMPARISON OF RAW MILK COST WITH COST OF ALTERNATIVE INGREDIENTS, BY MONTHS, CALIFORNIA, 1950–1962

	RAW MILK COST*	PROCESSING COST OF CREAM AND CONDENSED SKIM MILK†	TRANSPORTATION COST‡	TOTAL COST OF RAW MILK§	COST OF ALTERNATIVE INGREDIENTS‖	DIFFERENTIAL¶
	dollars per hundredweight					
	1950					
JANUARY	3.60	.31	.14	4.05	4.54	.49
FEBRUARY	3.33	.31	.14	3.78	4.32	.54
MARCH	3.11	.31	.14	3.56	3.99	.43
APRIL	2.89	.31	.14	3.34	3.79	.45
MAY	2.79	.31	.14	3.24	3.72	.48
JUNE	2.78	.31	.14	3.23	3.74	.51
JULY	2.81	.31	.14	3.26	3.81	.55
AUGUST	2.93	.31	.14	3.38	3.90	.52
SEPTEMBER	3.14	.32	.14	3.60	4.15	.55
OCTOBER	3.50	.32	.14	3.96	4.39	.43
NOVEMBER	3.69	.32	.14	4.15	4.51	.36
DECEMBER	3.72	.32	.14	4.18	4.62	.44
	1951					
JANUARY	4.11	.33	.14	4.58	5.02	.44
FEBRUARY	3.96	.33	.14	4.43	4.82	.39
MARCH	3.82	.33	.14	4.29	4.75	.46
APRIL	3.66	.33	.14	4.13	4.50	.37
MAY	3.59	.33	.14	4.06	4.51	.45
JUNE	3.62	.33	.14	4.09	4.46	.37
JULY	3.70	.33	.14	4.17	4.43	.26
AUGUST	3.79	.33	.14	4.26	4.46	.20
SEPTEMBER	3.99	.33	.14	4.46	4.65	.19
OCTOBER	4.22	.33	.14	4.69	4.97	.28
NOVEMBER	4.27	.33	.14	4.74	5.17	.43
DECEMBER	4.58	.33	.14	5.05	5.58	.53
	1952					
JANUARY	4.79	.34	.14	5.27	5.84	.57
FEBRUARY	4.33	.34	.14	4.81	5.57	.76
MARCH	4.38	.34	.14	4.86	5.14	.28
APRIL	4.15	.34	.14	4.63	4.77	.14
MAY	3.88	.34	.14	4.36	4.49	.13
JUNE	3.86	.34	.14	4.34	4.56	.22
JULY	3.97	.34	.14	4.45	4.69	.24
AUGUST	4.11	.34	.14	4.59	4.86	.27
SEPTEMBER	4.45	.34	.14	4.93	5.12	.19
OCTOBER	4.57	.34	.14	5.05	5.17	.12
NOVEMBER	4.87	.34	.14	5.35	5.33	-.02
DECEMBER	5.07	.34	.14	5.55	5.40	-.15

See p. 126 for footnotes.

Continued on next page

Table 23—Comparison Raw Milk Cost, Cost Alternative Ingredients, *cont.*

	RAW MILK COST*	PROCESSING COST OF CREAM AND CONDENSED SKIM MILK†	TRANSPORTATION COST‡	TOTAL COST OF RAW MILK§	COST OF ALTERNATIVE INGREDIENTS‖	DIFFERENTIAL¶
	dollars per hundredweight					
	1953					
JANUARY	4.90	.34	.14	5.38	5.23	-.15
FEBRUARY	4.43	.34	.14	4.91	4.85	-.06
MARCH	4.20	.35	.14	4.69	4.69	0
APRIL	3.79	.34	.14	4.27	4.36	.09
MAY	3.51	.34	.14	3.99	4.27	.28
JUNE	3.36	.35	.14	3.85	4.26	.41
JULY	3.34	.35	.14	3.83	4.24	.41
AUGUST	3.50	.35	.14	3.99	4.39	.40
SEPTEMBER	3.67	.35	.14	4.16	4.58	.42
OCTOBER	3.81	.35	.14	4.30	4.79	.49
NOVEMBER	3.87	.35	.14	4.36	4.86	.50
DECEMBER	3.94	.35	.14	4.43	4.89	.46
	1954					
JANUARY	3.83	.36	.14	4.33	4.89	.56
FEBRUARY	3.61	.36	.14	4.11	4.72	.61
MARCH	3.35	.36	.14	3.85	4.54	.69
APRIL	3.08	.36	.14	3.58	3.98	.40
MAY	2.87	.36	.14	3.37	3.78	.41
JUNE	2.83	.36	.14	3.33	3.77	.44
JULY	2.87	.36	.14	3.37	3.82	.45
AUGUST	3.01	.36	.14	3.51	3.95	.44
SEPTEMBER	3.20	.36	.14	3.70	4.14	.44
OCTOBER	3.34	.36	.14	3.84	4.29	.45
NOVEMBER	3.50	.36	.14	4.00	4.41	.41
DECEMBER	3.60	.36	.14	4.10	4.60	.50
	1955					
JANUARY	3.70	.37	.14	4.21	4.65	.44
FEBRUARY	3.49	.37	.14	4.00	4.37	.37
MARCH	3.28	.37	.14	3.79	4.15	.36
APRIL	3.10	.37	.14	3.61	3.89	.38
MAY	3.01	.37	.14	3.52	3.85	.33
JUNE	2.97	.37	.14	3.48	3.85	.37
JULY	3.01	.37	.14	3.52	3.86	.34
AUGUST	3.09	.37	.14	3.60	3.91	.31
SEPTEMBER	3.25	.38	.14	3.77	4.14	.37
OCTOBER	3.39	.38	.14	3.91	4.28	.37
NOVEMBER	3.50	.38	.14	4.02	4.42	.40
DECEMBER	3.64	.38	.14	4.16	4.54	.38

Continued on next page

Table 23—Comparison Raw Milk Cost, Cost Alternative Ingredients, *cont.*

	RAW MILK COST*	PROCESSING COST OF CREAM AND CONDENSED SKIM MILK†	TRANSPORTATION COST‡	TOTAL COST OF RAW MILK§	COST OF ALTERNATIVE INGREDIENTS	DIFFERENTIAL¶
	dollars per hundredweight					
	1956					
JANUARY	3.63	.38	.14	4.15	4.47	.32
FEBRUARY	3.52	.38	.14	4.04	4.41	.37
MARCH	3.25	.39	.14	3.78	4.10	.32
APRIL	3.13	.39	.14	3.66	4.02	.36
MAY	3.06	.39	.14	3.59	3.90	.31
JUNE	2.99	.39	.14	3.52	3.85	.33
JULY	3.02	.38	.14	3.54	3.90	.36
AUGUST	3.15	.39	.14	3.68	4.03	.35
SEPTEMBER	3.36	.39	.14	3.89	4.26	.37
OCTOBER	3.62	.39	.14	4.15	4.52	.37
NOVEMBER	3.80	.39	.14	4.33	4.73	.40
DECEMBER	3.89	.39	.14	4.42	4.60	.18
	1957					
JANUARY	3.99	.40	.14	4.53	4.65	.12
FEBRUARY	3.74	.40	.14	4.28	4.35	.07
MARCH	3.53	.40	.14	4.07	4.20	.13
APRIL	3.23	.40	.14	3.77	3.93	.16
MAY	3.15	.40	.14	3.69	3.81	.12
JUNE	3.11	.40	.14	3.65	3.80	.15
JULY	3.12	.40	.14	3.66	3.92	.26
AUGUST	3.20	.40	.14	3.74	3.98	.24
SEPTEMBER	3.37	.40	.14	3.91	4.27	.36
OCTOBER	3.56	.40	.14	4.10	4.48	.38
NOVEMBER	3.60	.40	.14	4.14	4.53	.39
DECEMBER	3.70	.40	.14	4.24	4.58	.34
	1958					
JANUARY	3.72	.41	.14	4.27	4.59	.32
FEBRUARY	3.59	.40	.14	4.13	4.43	.30
MARCH	3.48	.40	.14	4.02	4.30	.28
APRIL	3.28	.40	.14	3.82	4.00	.18
MAY	2.91	.40	.14	3.45	3.63	.18
JUNE	2.89	.40	.14	3.43	3.60	.17
JULY	2.92	.40	.14	3.46	3.65	.19
AUGUST	2.95	.41	.14	3.50	3.71	.21
SEPTEMBER	3.16	.41	.14	3.71	4.01	.30
OCTOBER	3.35	.41	.14	3.90	4.10	.20
NOVEMBER	3.50	.41	.14	4.05	4.17	.12
DECEMBER	3.56	.41	.14	4.11	4.34	.23

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Table 23—Comparison Raw Milk Cost, Cost Alternative Ingredients, *cont.*

	RAW MILK COST*	PROCESSING COST OF CREAM AND CONDENSED SKIM MILK†	TRANSPORTATION COST‡	TOTAL COST OF RAW MILK§	COST OF ALTERNATIVE INGREDIENTS‖	DIFFERENTIAL¶
	dollars per hundredweight					
	1959					
JANUARY	3.64	.43	.14	4.21	4.32	.11
FEBRUARY	3.55	.43	.14	4.12	4.20	.08
MARCH	3.33	.43	.14	3.90	3.93	.03
APRIL	3.15	.43	.14	3.72	3.70	-.02
MAY	3.12	.43	.14	3.69	3.67	-.02
JUNE	3.11	.43	.14	3.68	3.65	-.03
JULY	3.12	.43	.14	3.69	3.68	-.01
AUGUST	3.18	.43	.14	3.75	3.83	.08
SEPTEMBER	3.33	.43	.14	3.90	4.14	.24
OCTOBER	3.42	.43	.14	3.99	4.23	.24
NOVEMBER	3.48	.43	.14	4.05	4.38	.33
DECEMBER	3.55	.43	.14	4.12	4.41	.29
	1960					
JANUARY	3.68	.45	.14	4.27	4.35	.08
FEBRUARY	3.52	.45	.14	4.11	4.15	.04
MARCH	3.30	.45	.14	3.89	3.95	.06
APRIL	3.05	.45	.14	3.64	3.69	.05
MAY	2.98	.45	.14	3.59	3.67	.08
JUNE	2.95	.45	.14	3.54	3.63	.09
JULY	2.98	.45	.14	3.57	3.67	.10
AUGUST	3.03	.45	.14	3.62	3.76	.14
SEPTEMBER	3.22	.45	.14	3.81	4.06	.25
OCTOBER	3.42	.45	.14	4.01	4.23	.22
NOVEMBER	3.57	.45	.14	4.16	4.45	.29
DECEMBER	3.63	.45	.14	4.22	4.48	.26
	1961					
JANUARY	3.64	.47	.14	4.25	4.49	.24
FEBRUARY	3.46	.47	.14	4.07	4.25	.18
MARCH	3.37	.47	.14	3.98	4.25	.27
APRIL	3.28	.47	.14	3.89	4.08	.19
MAY	3.27	.47	.14	3.88	4.06	.18
JUNE	3.24	.47	.14	3.85	4.02	.17
JULY	3.14	.47	.14	3.75	4.05	.30
AUGUST	3.20	.47	.14	3.81	4.11	.30
SEPTEMBER	3.33	.47	.14	3.94	4.28	.34
OCTOBER	3.51	.47	.14	4.12	4.45	.33
NOVEMBER	3.63	.47	.14	4.24	4.60	.36
DECEMBER	3.71	.47	.14	4.32	4.71	.39

Continued on next page

Table 23—Comparison Raw Milk Cost, Cost Alternative Ingredients, *concluded*

	RAW MILK COST*	PROCESSING COST OF CREAM AND CONDENSED SKIM MILK†	TRANSPORTATION COST‡	TOTAL COST OF RAW MILK§	COST OF ALTERNATIVE INGREDIENTS‖	DIFFERENTIAL¶
	dollars per hundredweight					
	1962					
JANUARY	3.77	.47	.14	4.38	4.81	.43
FEBRUARY	3.70	.47	.14	4.31	4.72	.41
MARCH	3.49	.47	.14	4.10	4.49	.39
APRIL	3.10	.47	.14	3.71	3.91	.20
MAY	3.96	.47	.14	3.57	3.78	.21
JUNE	2.93	.47	.14	3.54	3.75	.21
JULY	2.94	.48	.14	3.56	3.77	.21
AUGUST	3.00	.48	.14	3.62	3.83	.21

* From table 15.

† From table 6.

‡ Estimated cost of transporting cream and condensed skim milk from San Joaquin Valley locations to metropolitan plants.

§ Estimate of costs of receiving California-produced milk at Valley plants, processing it into cream and condensed skim milk, and transporting these ingredients to metropolitan ice cream plants.

‖ San Francisco 92-score butter price + 2 cents per pound [1.235 x fat test (see column 2, table 15)] + price of nonfat dry solids, spray-processed [(fat test x .444) + 7.07].

¶ January, 1950 - August, 1962, average differential = 29 cents.

TABLE 24. COMPARISON OF NET VALUE OF BUTTER AND NONFAT DRY MILK WITH COST OF RAW MILK PER 100 POUNDS OF MILK, BY MONTHS, CALIFORNIA, 1950–1961

MONTH	TOTAL VALUE*	PROCESSING COST†	NET VALUE‡	RAW MILK COST§	DIFFERENTIAL‖
	dollars per hundredweight				
	1950				
JANUARY	4.19	.48	3.71	3.60	.11
FEBRUARY	3.98	.48	3.50	3.33	.17
MARCH	3.68	.48	3.20	3.11	.09
APRIL	3.49	.48	3.01	2.89	.12
MAY	3.42	.48	2.94	2.79	.15
JUNE	3.45	.49	2.96	2.78	.18
JULY	3.51	.49	3.02	2.81	.21
AUGUST	3.63	.49	3.14	2.93	.21
SEPTEMBER	3.83	.50	3.33	3.14	.19
OCTOBER	4.04	.50	3.54	3.50	.04
NOVEMBER	4.17	.51	3.66	3.69	-.03
DECEMBER	4.27	.51	3.76	3.72	.04

See p. 130 for footnotes.

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Table 24—Comparison Net Value Butter and Nonfat Dry Milk, Cost of Raw Milk, *continued*

MONTH	TOTAL VALUE*	PROCESSING COST†	NET VALUE‡	RAW MILK COST§	DIFFERENTIAL¶
	dollars per hundredweight				
	1951				
JANUARY	4.65	.52	4.13	4.11	.02
FEBRUARY	4.46	.52	3.94	3.96	-.02
MARCH	4.41	.52	3.89	3.82	.07
APRIL	4.17	.52	3.65	3.66	-.01
MAY	4.18	.52	3.66	3.59	.07
JUNE	4.13	.52	3.61	3.62	-.01
JULY	4.10	.52	3.58	3.70	-.12
AUGUST	4.12	.52	3.60	3.79	-.19
SEPTEMBER	4.31	.52	3.79	3.99	-.20
OCTOBER	4.61	.52	4.09	4.22	-.13
NOVEMBER	4.79	.52	4.27	4.27	0
DECEMBER	5.07	.52	4.55	4.58	-.03
	1952				
JANUARY	5.43	.53	4.90	4.79	.11
FEBRUARY	5.19	.54	4.65	4.33	.32
MARCH	4.78	.54	4.24	4.38	-.14
APRIL	4.42	.54	3.88	4.15	-.27
MAY	4.16	.54	3.62	3.88	-.26
JUNE	4.23	.54	3.69	3.86	-.17
JULY	4.35	.54	3.81	3.97	-.16
AUGUST	4.50	.54	3.96	4.11	-.15
SEPTEMBER	4.76	.54	4.22	4.45	-.23
OCTOBER	4.81	.54	4.27	4.57	-.30
NOVEMBER	4.94	.54	4.40	4.87	-.47
DECEMBER	5.00	.54	4.46	5.07	-.61
	1953				
JANUARY	4.83	.55	4.28	4.90	-.62
FEBRUARY	4.48	.55	3.93	4.43	-.50
MARCH	4.35	.55	3.80	4.20	-.40
APRIL	4.03	.55	3.48	3.79	-.31
MAY	3.95	.55	3.40	3.51	-.11
JUNE	3.95	.55	3.40	3.36	.04
JULY	3.92	.56	3.36	3.34	.02
AUGUST	4.06	.56	3.50	3.50	0
SEPTEMBER	4.24	.56	3.68	3.67	.01
OCTOBER	4.43	.56	3.87	3.81	.06
NOVEMBER	4.50	.56	3.94	3.87	.07
DECEMBER	4.51	.56	3.95	3.94	.01

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Table 24—Comparison Net Value Butter and Nonfat Dry Milk, Cost of Raw Milk, *continued*

MONTH	TOTAL VALUE*	PROCESSING COST†	NET VALUE‡	RAW MILK COST§	DIFFERENTIAL‖
	dollars per hundredweight				
	1954				
JANUARY	4.52	.56	3.96	3.83	.13
FEBRUARY	4.36	.56	3.80	3.61	.19
MARCH	4.21	.56	3.65	3.35	.30
APRIL	3.67	.56	3.11	3.08	.03
MAY	3.48	.56	2.92	2.87	.05
JUNE	3.47	.56	2.91	2.83	.08
JULY	3.52	.56	2.96	2.87	.09
AUGUST	3.64	.56	3.08	3.01	.07
SEPTEMBER	3.80	.56	3.24	3.20	.04
OCTOBER	3.96	.56	3.40	3.34	.06
NOVEMBER	4.07	.56	3.51	3.50	.01
DECEMBER	4.23	.56	3.67	3.60	.07
	1955				
JANUARY	4.28	.58	3.70	3.70	0
FEBRUARY	4.04	.58	3.46	3.49	-.03
MARCH	3.82	.58	3.24	3.28	-.04
APRIL	3.58	.58	3.00	3.10	-.10
MAY	3.55	.58	2.97	3.01	-.04
JUNE	3.54	.58	2.96	2.97	-.01
JULY	3.55	.58	2.97	3.01	-.04
AUGUST	3.61	.59	3.02	3.09	-.07
SEPTEMBER	3.82	.59	3.23	3.25	-.02
OCTOBER	3.94	.59	3.35	3.39	-.04
NOVEMBER	4.07	.59	3.48	3.50	-.02
DECEMBER	4.17	.59	3.58	3.64	-.06
	1956				
JANUARY	4.11	.60	3.51	3.63	-.12
FEBRUARY	4.11	.60	3.51	3.52	-.01
MARCH	3.77	.60	3.17	3.25	-.08
APRIL	3.70	.61	3.09	3.13	-.04
MAY	3.58	.61	2.97	3.06	-.09
JUNE	3.55	.61	2.94	2.99	-.05
JULY	3.60	.61	2.99	3.02	-.03
AUGUST	3.72	.61	3.11	3.15	-.04
SEPTEMBER	3.93	.62	3.31	3.36	-.05
OCTOBER	4.17	.61	3.56	3.62	-.06
NOVEMBER	4.37	.61	3.76	3.80	-.04
DECEMBER	4.31	.62	3.69	3.89	-.20

Continued on next page

Table 24—Comparison Net Value Butter and Nonfat Dry Milk, Cost of Raw Milk, *continued*

MONTH	TOTAL VALUE*	PROCESSING COST†	NET VALUE‡	RAW MILK COST§	DIFFERENTIAL‖
	dollars per hundredweight				
	1957				
JANUARY	4.36	.63	3.73	3.99	-.26
FEBRUARY	4.08	.63	3.45	3.74	-.29
MARCH	3.94	.63	3.31	3.53	-.22
APRIL	3.69	.63	3.06	3.23	-.17
MAY	3.56	.63	2.93	3.15	-.22
JUNE	3.55	.63	2.92	3.11	-.19
JULY	3.62	.63	2.99	3.12	-.13
AUGUST	3.74	.63	3.11	3.20	-.09
SEPTEMBER	4.00	.63	3.37	3.37	0
OCTOBER	4.21	.63	3.58	3.56	.02
NOVEMBER	4.24	.63	3.61	3.60	.01
DECEMBER	4.28	.63	3.65	3.70	-.05
	1958				
JANUARY	4.23	.64	3.59	3.72	-.13
FEBRUARY	4.08	.64	3.44	3.59	-.15
MARCH	3.96	.63	3.33	3.48	-.15
APRIL	3.68	.63	3.05	3.28	-.23
MAY	3.34	.63	2.71	2.91	-.20
JUNE	3.32	.63	2.69	2.89	-.20
JULY	3.36	.63	2.73	2.92	-.19
AUGUST	3.41	.64	2.77	2.95	-.18
SEPTEMBER	3.70	.64	3.06	3.16	-.10
OCTOBER	3.81	.64	3.17	3.35	-.18
NOVEMBER	3.83	.64	3.19	3.50	-.31
DECEMBER	4.00	.64	3.36	3.56	-.20
	1959				
JANUARY	3.99	.67	3.32	3.64	-.32
FEBRUARY	3.88	.67	3.21	3.55	-.34
MARCH	3.62	.67	2.95	3.33	-.38
APRIL	3.40	.67	2.73	3.15	-.42
MAY	3.38	.67	2.71	3.12	-.41
JUNE	3.36	.67	2.69	3.11	-.42
JULY	3.39	.67	2.72	3.12	-.40
AUGUST	3.52	.67	2.85	3.18	-.33
SEPTEMBER	3.82	.67	3.15	3.33	-.18
OCTOBER	3.90	.67	3.23	3.42	-.19
NOVEMBER	4.04	.67	3.37	3.48	-.11
DECEMBER	4.06	.67	3.39	3.55	-.16

Continued on next page

Table 24—Comparison Net Value Butter and Nonfat Dry Milk, Cost of Raw Milk, *concluded*

MONTH	TOTAL VALUE*	PROCESSING COST†	NET VALUE‡	RAW MILK COST§	DIFFERENTIAL‖
	dollars per hundredweight				
	1960				
JANUARY	4.00	.70	3.30	3.68	-.38
FEBRUARY	3.82	.70	3.12	3.52	-.40
MARCH	3.63	.70	2.93	3.30	-.37
APRIL	3.40	.70	2.70	3.05	-.35
MAY	3.38	.70	2.68	2.98	-.30
JUNE	3.35	.70	2.65	2.95	-.30
JULY	3.38	.70	2.68	2.98	-.30
AUGUST	3.46	.70	2.76	3.03	-.27
SEPTEMBER	3.81	.70	3.11	3.22	-.11
OCTOBER	3.90	.70	3.20	3.42	-.22
NOVEMBER	4.10	.70	3.40	3.57	-.17
DECEMBER	4.13	.70	3.43	3.63	-.20
	1961				
JANUARY	4.14	.73	3.41	3.64	-.23
FEBRUARY	3.91	.73	3.18	3.46	-.28
MARCH	3.93	.73	3.20	3.37	-.17
APRIL	3.76	.73	3.03	3.28	-.25
MAY	3.75	.72	3.03	3.27	-.24
JUNE	3.71	.72	2.99	3.24	-.25
JULY	3.74	.73	3.01	3.14	-.13
AUGUST	3.79	.73	3.06	3.20	-.14
SEPTEMBER	3.95	.73	3.22	3.33	-.11
OCTOBER	4.11	.72	3.39	3.51	-.12
NOVEMBER	4.24	.72	3.52	3.63	-.11
DECEMBER	4.34	.73	3.61	3.71	-.10

* From table 18.

† From table 8.

‡ Total value minus processing cost.

§ From table 15.

‖ Net value minus raw milk cost.

TABLE 25. COMPARISON OF NET VALUE OF EVAPORATED MILK WITH COST OF RAW MILK PER 100 POUNDS OF MILK, BY MONTHS, CALIFORNIA, 1950–1961

MONTH	TOTAL VALUE*	PROCESSING COST†	NET VALUE‡	RAW MILK COST§	DIFFERENTIAL‖
	dollars per hundredweight				
	1950				
JANUARY	5.55	1.39	4.16	3.60	.56
FEBRUARY	5.50	1.40	4.10	3.33	.77
MARCH	5.45	1.40	4.05	3.11	.94
APRIL	5.40	1.40	4.00	2.89	1.11
MAY	5.40	1.40	4.00	2.79	1.21
JUNE	5.43	1.40	4.03	2.78	1.25
JULY	5.51	1.40	4.11	2.81	1.30
AUGUST	5.56	1.40	4.16	2.93	1.23
SEPTEMBER	5.56	1.40	4.16	3.14	1.02
OCTOBER	5.88	1.41	4.47	3.50	.97
NOVEMBER	5.94	1.41	4.53	3.69	.84
DECEMBER	6.07	1.41	4.66	3.72	.94
	1951				
JANUARY	6.63	1.58	5.05	4.11	.94
FEBRUARY	6.71	1.58	5.13	3.96	1.17
MARCH	6.71	1.58	5.13	3.82	1.31
APRIL	6.71	1.58	5.13	3.66	1.47
MAY	6.59	1.58	5.01	3.59	1.42
JUNE	6.59	1.58	5.01	3.62	1.39
JULY	6.53	1.58	4.95	3.70	1.25
AUGUST	6.45	1.58	4.87	3.79	1.08
SEPTEMBER	6.54	1.58	4.96	3.99	.97
OCTOBER	6.60	1.58	5.02	4.22	.80
NOVEMBER	6.66	1.58	5.08	4.27	.81
DECEMBER	6.75	1.58	5.17	4.58	.59
	1952				
JANUARY	6.92	1.59	5.33	4.79	.54
FEBRUARY	6.76	1.59	5.17	4.33	.84
MARCH	6.98	1.59	5.39	4.38	1.01
APRIL	6.98	1.59	5.39	4.15	1.24
MAY	6.91	1.59	5.32	3.88	1.44
JUNE	6.91	1.59	5.32	3.86	1.46
JULY	6.91	1.59	5.32	3.97	1.35
AUGUST	6.91	1.63	5.28	4.11	1.17
SEPTEMBER	6.98	1.63	5.35	4.45	.90
OCTOBER	7.04	1.63	5.41	4.57	.84
NOVEMBER	7.10	1.63	5.47	4.87	.60
DECEMBER	7.17	1.63	5.54	5.07	.47

See p. 134 for footnotes.

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Table 25—Comparison Net Value Evaporated Milk, Raw Milk, *continued*

MONTH	TOTAL VALUE*	PROCESSING COST†	NET VALUE‡	RAW MILK COST§	DIFFERENTIAL‖
	dollars per hundredweight				
	1953				
JANUARY	7.10	1.64	5.46	4.90	.56
FEBRUARY	6.98	1.64	5.34	4.43	.91
MARCH	6.91	1.64	5.27	4.20	1.07
APRIL	6.64	1.64	5.00	3.79	1.21
MAY	6.64	1.64	5.00	3.51	1.49
JUNE	6.51	1.64	4.87	3.36	1.51
JULY	6.37	1.64	4.73	3.34	1.39
AUGUST	6.37	1.64	4.73	3.50	1.23
SEPTEMBER	6.43	1.64	4.79	3.67	1.12
OCTOBER	6.49	1.64	4.85	3.81	1.04
NOVEMBER	6.49	1.64	4.85	3.87	.98
DECEMBER	6.34	1.64	4.70	3.94	.76
	1954				
JANUARY	6.27	1.64	4.63	3.83	.80
FEBRUARY	6.22	1.63	4.59	3.61	.98
MARCH	6.34	1.63	4.71	3.35	1.36
APRIL	6.10	1.64	4.46	3.08	1.38
MAY	6.10	1.64	4.46	2.87	1.59
JUNE	6.10	1.64	4.46	2.83	1.63
JULY	6.10	1.64	4.46	2.87	1.59
AUGUST	6.10	1.64	4.46	3.01	1.45
SEPTEMBER	6.16	1.64	4.52	3.20	1.32
OCTOBER	6.22	1.66	4.56	3.34	1.22
NOVEMBER	6.22	1.66	4.56	3.50	1.06
DECEMBER	6.27	1.66	4.61	3.60	1.01
	1955				
JANUARY	6.27	1.67	4.60	3.70	.90
FEBRUARY	6.22	1.67	4.55	3.49	1.06
MARCH	6.16	1.67	4.49	3.28	1.21
APRIL	6.10	1.67	4.43	3.10	1.33
MAY	6.10	1.67	4.43	3.01	1.42
JUNE	6.10	1.67	4.43	2.97	1.46
JULY	6.10	1.67	4.43	3.01	1.42
AUGUST	6.10	1.68	4.42	3.09	1.33
SEPTEMBER	6.16	1.68	4.48	3.25	1.23
OCTOBER	6.22	1.74	4.48	3.39	1.09
NOVEMBER	6.29	1.74	4.55	3.50	1.05
DECEMBER	6.44	1.74	4.70	3.64	1.06

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Table 25—Comparison Net Value Evaporated Milk, Raw Milk, *continued*

MONTH	TOTAL VALUE*	PROCESSING COST†	NET VALUE‡	RAW MILK COST§	DIFFERENTIAL‖
	dollars per hundredweight				
	1956				
JANUARY	6.44	1.76	4.68	3.63	1.05
FEBRUARY	6.38	1.76	4.62	3.52	1.10
MARCH	6.32	1.76	4.56	3.25	1.31
APRIL	6.26	1.76	4.50	3.13	1.37
MAY	6.26	1.82	4.44	3.06	1.38
JUNE	6.21	1.82	4.39	2.99	1.40
JULY	6.26	1.82	4.44	3.02	1.42
AUGUST	6.26	1.83	4.43	3.15	1.28
SEPTEMBER	6.32	1.83	4.49	3.36	1.13
OCTOBER	6.38	1.83	4.55	3.62	.93
NOVEMBER	6.44	1.85	4.59	3.80	.79
DECEMBER	6.56	1.85	4.71	3.89	.82
	1957				
JANUARY	6.60	1.86	4.74	3.99	.75
FEBRUARY	6.54	1.86	4.68	3.74	.94
MARCH	6.49	1.86	4.63	3.53	1.10
APRIL	6.43	1.86	4.57	3.23	1.34
MAY	6.43	1.92	4.51	3.15	1.36
JUNE	6.43	1.92	4.51	3.11	1.40
JULY	6.43	1.92	4.51	3.12	1.39
AUGUST	6.43	1.92	4.51	3.20	1.31
SEPTEMBER	6.49	1.92	4.57	3.37	1.20
OCTOBER	6.54	1.92	4.62	3.56	1.06
NOVEMBER	6.58	1.92	4.66	3.60	1.06
DECEMBER	6.77	1.92	4.85	3.70	1.15
	1958				
JANUARY	6.77	1.92	4.85	3.72	1.13
FEBRUARY	6.71	1.92	4.79	3.59	1.20
MARCH	6.71	1.92	4.79	3.48	1.31
APRIL	6.65	1.92	4.73	3.28	1.45
MAY	6.59	1.92	4.67	2.91	1.76
JUNE	6.53	1.92	4.61	2.89	1.72
JULY	6.59	1.92	4.67	2.92	1.75
AUGUST	6.59	1.93	4.66	2.95	1.71
SEPTEMBER	6.65	1.93	4.72	3.16	1.56
OCTOBER	6.65	1.93	4.72	3.35	1.37
NOVEMBER	6.71	1.98	4.73	3.50	1.23
DECEMBER	6.71	1.98	4.73	3.56	1.17

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Table 25—Comparison Net Value Evaporated Milk, Raw Milk, *concluded*

MONTH	TOTAL VALUE*	PROCESSING COST†	NET VALUE‡	RAW MILK COST§	DIFFERENTIAL‖
	dollars per hundredweight				
	1959				
JANUARY	6.82	2.01	4.81	3.64	1.17
FEBRUARY	6.82	2.01	4.81	3.55	1.26
MARCH	6.76	2.01	4.75	3.33	1.42
APRIL	6.70	2.01	4.69	3.15	1.54
MAY	6.70	2.01	4.69	3.12	1.57
JUNE	6.70	2.01	4.69	3.11	1.58
JULY	6.70	2.01	4.69	3.12	1.57
AUGUST	6.70	2.02	4.68	3.18	1.50
SEPTEMBER	6.76	2.02	4.74	3.33	1.41
OCTOBER	6.78	2.02	4.76	3.42	1.34
NOVEMBER	6.82	2.02	4.80	3.48	1.32
DECEMBER	6.82	2.02	4.80	3.55	1.25
	1960				
JANUARY	6.88	2.04	4.84	3.68	1.16
FEBRUARY	6.82	2.04	4.78	3.52	1.26
MARCH	6.76	2.04	4.72	3.30	1.42
APRIL	6.70	2.04	4.66	3.05	1.61
MAY	6.70	2.04	4.66	2.98	1.68
JUNE	6.63	2.04	4.59	2.95	1.64
JULY	6.70	2.04	4.66	2.98	1.68
AUGUST	6.70	2.04	4.66	3.03	1.63
SEPTEMBER	6.76	2.04	4.72	3.22	1.50
OCTOBER	7.04	2.05	4.99	3.42	1.57
NOVEMBER	7.04	2.04	5.00	3.57	1.43
DECEMBER	7.10	2.04	5.06	3.63	1.43
	1961				
JANUARY	7.15	2.07	5.08	3.64	1.44
FEBRUARY	7.10	2.07	5.03	3.46	1.57
MARCH	7.03	2.07	4.96	3.37	1.59
APRIL	6.97	2.08	4.89	3.28	1.61
MAY	6.97	2.07	4.90	3.27	1.63
JUNE	6.97	2.08	4.89	3.24	1.65
JULY	6.97	2.08	4.89	3.14	1.75
AUGUST	6.52	2.08	4.44	3.20	1.24
SEPTEMBER	6.43	2.08	4.35	3.33	1.02
OCTOBER	6.49	2.07	4.42	3.51	.91
NOVEMBER	6.49	2.07	4.42	3.63	.79
DECEMBER	6.55	2.07	4.48	3.71	.77

* From table 22.

† From table 14.

‡ Total value minus processing cost.

§ From table 15.

‖ Net value minus raw milk cost.

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